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THE

MINERAL SPRINGS OF VICHY:

A SKETCH

OF THEIR

Chemical and Physical Characters,

AND OF

THEIR EFFICACY IN THE TREATMENT OF VARIOUS DISEASES.

WRITTEN AFTER A RAPID EXCURSION FROM KISSINGEN,

In the Summer of 1858,

AS A GUIDE TO ENGLISH INVALIDS SUFFERING FROM GOUT, INDIGESTION, ACIDITY OF THE STOMACH AND GRAVEL.

By the Author of "The Spas of Germany;" "The Spas of England;" "Kissingen;" &c. &c.

Daumas, C.

LONDON:

JOHN CHURCHILL, NEW BURLINGTON STREET.

MDCCCLIX.

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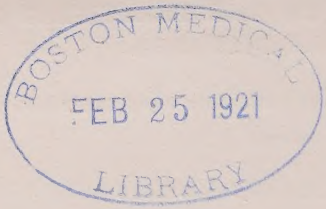

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INTRODUCTORY ANNOUNCEMENT.

Since the year 1853, when a decree of the French Government placed the neglected mineral establishment of Vichy in the hands of a highly respectable and responsible society of shareholders, that spa has been rapidly emerging from comparative obscurity into the noon-day of popularity. Its name, but little, if at all, known in England until within the last three or four years, is now in the mouth of many hundred visitors, who have returned from Vichy, more or less benefited by its waters, to which they had had recourse on the recommendation of French physicians, or their works. English practitioners, especially such as are consulted by chronic invalids, eager to seek health abroad from mineral waters, or the mere influence of foreign travels, have adopted the views and panegyrics of their continental brethren, and the names of Vichy, Vichy waters, Vichy baths, and Vichy pastilles, are, accordingly, to be heard every day in the drawing room, as well as the sick rooms of the rich of the metropolis.

Yet there does not exist in the English language a single professed work, be it large or small, on the subject of the mineral waters of Vichy; and it is doubtful whether a competent acquaintance with that locality and the nature of its springs, forms part of the qualification of the London practitioner who ventures to recommend them to the notice of his patients. In this ignorance I myself was a partaker, until last year. Hence, whenever a patient asked my opinion or advice, respecting the use or virtues of the Vichy waters, I declined giving any of my own, and referred him to the Paris physicians.

Such occasions, however, had become so frequent of late, in consequence of the well-known fact of my having extensively written on foreign as well as English mineral waters, and of my annually visiting a particular continental spa, Kissingen, that I resolved to remain no longer in such a state of ignorance, and determined to make myself personally acquainted with all that related to Vichy and its various resources. I considered that in this manner I might be able to present to invalids, desirous to avail themselves of those resources, something like a practical guide, in which they might safely confide, as coming from a medical authority long conversant with the whole question of the hydromineral treatment of diseases. Whether I have succeeded in my object, I leave those practically conversant with it to determine.

I allowed myself but a short period for becoming acquainted with the whole subject; still I mastered all its difficulties, nor left I any part of it uninvestigated on the spot and through personal experience or observation. In my researches I was not only initiated, but accompanied and ably assisted by Dr. Barthez, the head physician of the Military Hospital in Vichy, of which I shall have to treat presently, as affording one of the best sources of practical demonstration of the virtues of the Vichy water in certain diseases. To investigate the physical and therapeutic efficacy of any potent mineral water has always been a work of love with me. I may say that few medical men in this country have been more indefatigable in the study of those stupendous gifts of Providence for the relief of human bodily suffering—having personally examined the mineral springs of England, Germany, France, and Italy, and published a larger number of volumes on the subject than any other English writer.

The addition of the present trifling production may not enhance the importance of my previous writings, one of which, "The Spas of Germany," was the first considerable and professed work on the subject, which led the way in this country to the subsequent and quasi general adoption of a hydromineral treatment in chronic diseases. But, although insignificant in its dimensions, the intrinsic

value of the present volume will not, I trust, be measured either by its bulk, or by the imperfect manner in which the author may have executed it. The amount of interesting information gathered in it—by which the intended visitor for Vichy may benefit and be guided in his proceedings, even though under the care of one of its eminent local physicians—and which can surely be depended upon as the result of actual personal investigation —such is the measure whereby the real value of the following pages should be estimated.

It was at the conclusion of a successful season at Kissingen that I determined to pay a visit to the springs of Vichy, which, I was aware, closed later in the year than the German spas, owing to their more southern position. Nor was I mistaken, since I found that thermal establishment still in full force, and visitors thronging yet to the several sources to which I was introduced. But coming, as I did, from another equally popular spa—though the very antipodes of its French rival in chemical and physical character—a lurking idea kept surging in my mind that, possibly, the two might be made, through a careful examination of their individual and distinctive properties, assistant or suffragan to each other. Such an idea in one, so sanguine and enthusiastic an hydrologist, was likely to increase the ardour of my inquiry into the minutest peculiarities of the French spa I was about to visit.

It turned out as I anticipated; once thoroughly acquainted with all the Springs of Vichy—having tasted to satiety of all its waters, and luxuriated in its satinising baths—it was not difficult, whilst conversing with Dr. Barthez—looking over his statistical tables of diseases treated by those waters and baths—and listening to his lucid views of their mode of action (views most ably developed in his "Guide Pratique des Malades aux Eaux de Vichy," 5th edition), it was not difficult, I say, for me to come to the conclusion that, in certain maladies, aptly the subject for mineral-water treatment, such as Gout, Rheumatism, Dyspepsia, Gastralgia, and others, the complement of the cure begun at Vichy with its *warm alkaline* waters, was Kissingen with its *cold acidulous chalybeate* springs—the Pandur, and, above all, the Ragozi; whilst in many cases of general debility, prostrated constitutions, weakened and chlorotic females, bloodless complexions forming a larger proportion of the invalids who properly seek renovation from the marvellous Ragozi, the supersaturation of the system, at times inevitable, by the acidulated oxide of iron would be presently corrected and further improved by a course of the *Grand Grille*, or *l'Hôpital*.

Under such impressions, which will be further developed in the following pages, it occurred to me that a rapid description of the most agreeable route from Kis-

singen to Vichy—the one which I myself followed, would not be altogether uninteresting to such as were likely to feel disposed to adopt the same course in proceeding from the Bavarian to the Gallic spa—or, reversing the picture, from the latter to the former.

I have therefore inserted my notes of the rapid excursion alluded to, with the mention of which I conclude this preliminary announcement.

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1, Curzon Street, May Fair.
1st July, 1859.

I.

FROM KISSINGEN TO VICHY.

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I.

"*Tout chemin mène à Rome;*" not so with regard to Vichy. Whether you start from Paris to Lyons in search of that Spa, or return thence to the capital, having missed it by the way, you will miss Vichy again, though people tell you it is on the railway between Paris and Lyons. The fact is, Vichy lies *perdu* on the banks of the Allier, at an hour's distance from one of the lesser stations on the Orleans and Lyons railroad, and unless you know categorically that you must halt at St. Germains des Fossés, 250 miles from Paris, you will not reach Vichy; and not even then, except by a supplementary ride of three leagues in a hired calèche, or *petit omnibus*. This is what I did, coming from Lyons. But to get at that second metropolis of France from the heart of Bavaria, whence I started, a far superior and delightful route presented itself than the direct Paris line can offer to such as come from the opposite direction.

The season at Kissingen had not been so brilliant in 1858, as in the preceding year, when the whole of the Imperial Court of Russia sojourned there for a month, and the King and Queen of Bavaria made it their resi-

dence for a longer period, accompanied by some of the Ministers; and a galaxy of German Princes and Princesses came thither to sip its sparkling waters, the use of which (so far differing from that of the generality of mineral waters) medical men at Kissingen are oftener called upon to restrain than to urge on their patients—so delicious are they. Among the number of those whose course of the waters I had directed, some there were who had just returned from Vichy, and their account of its mineral sources, and their effect on certain disorders, especially gout, increased my already great desire to become practically acquainted with the place. Some had come one way, and some another, from Vichy to Kissingen; but all were of one opinion as to the varied interest and attractions of the *trajet* between the two Spas. Performed leisurely (as becomes every mineral water bibber to do after a course), the journey can only tend to the advantage, not less than to the enjoyment of the patient. At every step something new offers itself to the attention of the traveller. He need not fatigue himself with either carriage or horse riding. The whole distance is performed by railroad, and water steamers—save and except an equally short distance which must be run over in some horse-vehicle or other at each end of the line.

Schweinfurt is the station we thus seek on quitting Kissingen; and it is curious to observe, whilst watching those who get out at that station, and those who get in, how much the former, by their gait, spirits, and appearance, betoken the great benefit their sojourn in Kissingen has produced; while the latter, equally expressing by their physiognomy the real condition of their interior, show how much they stand in need of that health-giving Spa. It was a remark of Herr Walther, the director at

this important station, who had been for many years previously director of the Post-office at Kissingen, that in exchanging his local employment under the Government, he had also exchanged his means of observation in regard to the invalid visiters to Kissingen—for whereas he could, in his previous situation, notice but singly, at the narrow window of his office, the miserable cachectic applicant for letters who had just arrived, and contrast afterwards his whole improved aspect when he called for his *Reiseschein* at the end of four weeks; here, at the station of Schweinfurt, that contrast was not between two individuals, but between two masses of people, who with two distinct conditions of health and disease stood before him at the same moment, and many a time in the course of the season. To an acute observer, this is a psychological not less than a medical study, which railway travelling alone has brought forward, and the occasional delay of half an hour before departure offers the means of accomplishing.

Speaking of railway travelling, by the bye, it is but just to remark, in passing, how superior this identical Bavarian line of railway is, in every respect, to all the German, and, unquestionably, to all the French railways I am acquainted with. It forms the topic of admiring travellers as they meet in the very comfortable second-class carriages, more frequented than the first—still more so, when they lounge in the latter, where seclusion or exclusion is desired, or the wish to enjoy the real perfection of a railway conveyance is uppermost. To the civil engineer the manner of its execution, with the difficulties overcome, either in crossing or following the tortuous windings of the Main, which, for a long line, presents all its varied beautifully-

wooded banks—its cities and villages—its ancient castles and modern villas—this railway must be an interesting subject of study. But still more so when he notices how exquisitely finished is the workmanship of the permanent way, and of the many architectural structures forming the several stations, which, for taste of invention and design, point to that happy *renaissance* the Bavarians justly and proudly ascribe to their King Ludwig. The section of this railway to which special reference is here made, was executed under the direction of an Italian architect and engineer.

To those who have perused one of the recent and clever books of Mr. Adolphus Trollope on Italian Women, and recollect its charming portraiture of Olimpia Morata, the name of Schweinfurt, the station at which we are waiting the departure of our train for Würzburg and Frankfort, will not sound strange. With myself that name will, ever henceforth, be associated with that of Olimpia; nor shall I ever cross the large market-place, or look to its characteristic Rathaus, or pass through the low-arched massive gates that let us out beyond its bastions to the station, without being at once reminded of "that young priestess in the Temple of Minerva, as Mr. Trollope styles her, who left behind her the fair claim of being remembered as one of the noblest types on record of true womanly excellence." And this lovely creature, the daughter of a schoolmaster of Ferrara, raised to be the intimate companion of Princesses of the proud House D'Este, of the sixteenth century, to become afterwards the cynosure of all Italy for her wonderful talents and acquirements, was to be carried off to this very place of Schweinfurt, by one of its humble citizens, a wandering student in medicine, temporarily residing in Ferrara!

In this, his native town (Schweinfurt), then a free city, Dr. Grünthler and his fair bride were to take shelter from the persecution, and danger of martyrdom to which the imbibing and following of the "new doctrine" of Calvin, then a contemporary and teacher at the Court of Ferrara, had exposed them. Here, at all events, "freedom of conscience, liberty of life, the interchange of thought and opinion without danger of the inquisition, and the independence of a home of her own, were well worth the sacrifice of an Italian sunshine, brilliant skies, and all the festal out-door life belonging to them." Yes! Schweinfurt and Olympia, the pure, the *saved* Olympia, will be but as one name in my mind as I yearly revisit that station; and I thank the gifted author of her biography that, through him, I have conquered a new mental delight in travelling.

The restored and returning patient from Kissingen proceeds next, with the rapidity of a twenty-miles-an-hour train, to the "Free City" *par excellence*, ever garrisoned by armed bands sent thither by four or five foreign potentates to secure the liberty of speech and action, we may suppose; or perhaps to give the only importance that can, with any seriousness, be imparted to that mockery, or political myth, yclept "the Bund," which delights in fixing its *sejour* in this very city, equally powerful for good or for evil, like the "Grosse Parliament" of 1848, than which there never was a greater political farce recorded in the historical annals of the Great Fatherland!

Is it the air, is it the people, or the aspect of its edifices, or what is it, that makes Frankfort always joyous, happy looking, and welcome to all travellers, whether from the South or the North, the East or the West?

One is always glad to arrive there, and what's more, one is well lodged there, and cared for without extravagance. Somehow or other one is sure to meet an acquaintance or a friend at Frankfort—somebody who is going the way we are going, or is just come from whence we intend to direct our steps to. I have always looked upon Frankfort as the Great Square, or *La Grande Place*, of the large Town, Europe—in which, as in the *grande place* of a county town, the inhabitants from all quarters are sure to jostle together at some hour of the day. It is the Centre of travelling-Europe, the rendezvous of all vagabondizing, whether for business or pleasure. But no one cares to remain in Frankfort longer than is necessary, and so the returning Kissingen patient on his way to Vichy, leaves it to proceed to Bâle—peering, by the way, into Heïdelberg for a few hours, to see how they are improving that Gothic city and its pretty *Einlage*, now flanked by handsome edifices—and sparing a day (not a night: *caveto*) for the beauties of Baden-Baden.

The railroad from Kehl was new to me; I was much pleased at the very neat manner in which it is kept. The country on each side of the railway is exceedingly pretty, and, in part, owing to the construction of the Swiss carriages, one enjoys the scenery around as much as in an open barouche with posters. As Bâle was a well-known place of old, I simply drove through its whole wearisome length in the heavy omnibus, which picked us up at the landing station, and set us down at the *Gare de Berne*, then yet in the rough. By this time it is no doubt complete. Judging from its commencement and the outlines of its foundations, it will be a handsome station. It is a doubly fortunate circumstance for those who wish to avail themselves of this rail, and

are anxious to save a particular train onward to Berne and Italy, or to Berne and Geneva, and so on into France, that the streets of Bâle are neither so narrow, nor so crooked or encumbered as those of Cologne, where also the incoming train from the north has to cross, in the like manner, the filthy town of Cologne, to reach the outgoing train to the south—or again, that the screwing and cheating arrangement of the Cologne trains, by which you are always sure to be too late for the one you want, in order that the keepers of the *Grand* Hotel this and the *Grand* Hotel that may have an opportunity of squeezing a table d'hôte dinner and a bad bottle of Rhenish into your famished stomach—does not obtain at the embarcadero of Bâle. The streets you run along for a quarter of an hour at least in Bâle, are large, well-paved, and with something worth looking at out of the windows; and you are certain to arrive in more than ample time for your own train, as these do not follow one another with the rapidity of a Great or a North Western time-table.

A second-class ticket to Alten, and thence to Luzern, will secure an excellent conveyance, and a cheap one. At the last station to the latter city, which is reached by a steep inclined plane, an omnibus takes up the traveller, and, after a tedious run of half-an-hour, with the inside crammed to suffocation, crossing bridges and skirting water, you are deposited in the inner court-yard of the Great Post Office, where the luggage from Frankfort and all intermediate stations is to be unloaded and distributed, that you may, by another omnibus, wend your way to the Schweitzer Hof, which was my destination. This whole line of rail had only just been open to the public, and was in the rough still. The journey

lasted from a quarter to five, from Bâle, to ten o'clock at night, and cost the enormous sum of seven francs twenty centimes! The people of the house looked so sulky, because sleepy I suppose, that I thought it unwise to do more than call for a cup of coffee and a bed-room candle. By half-past ten, the whole of the gigantic establishment was as silent as the grave. Happy primitive life!

Were I to recommend to any of my patients a place of residence combining every requisite calculated to promote the restoration of a lost equilibrium of health, with the absence of positive disease, I should unhesitatingly name Luzern; I mean, of course, when Switzerland is the country selected, and the seasons summer or autumn. At that time, and in such a country, Luzern, I say, before all other localities. How any creature having a couple of months or more to pass in Switzerland in a permanent residence, who knows anything of Luzern, can think of spending them at that, melancholy and ever-rainy place, Interlachen instead, may well excite surprise.

It was a glorious sight which greeted me when the domestic, as directed, came to throw open the casement of my apartment, as the first rays of the sun tipped the snow-capped mountain range, stretched in a long line, at various distances, before my window. The unruffled lake lay between and below me, with Pilatus on the right, and the famed Rigi on the left, like the two great side scenes of a gigantic diorama, forming the foreground of a magnificent landscape. Lost in admiration at such a spectacle, we hardly notice the lines of houses, and clusters of villas, that form the town and its alentours. The morning was fresh, and the sky overhead serene. At that early hour Pilatus' many-pointed and lofty sum-

mits fringed the blue sky, and became presently tinged ruby red, as the sun's rays impinged on them; while the Rigi, still in the shadow, was slowly emerging from the last vapours of night. At length its culminating peak, or kulm, came within the focus of my opera-glass, marked by its inn; in front of which many tiny marionettes appeared, with their faces all turned, like so many Persian worshippers, towards the rising sun. These were the travellers who the day before had ascended the mountain, passed the night in the hotel, and had been roused out of their slumbers soon after four o'clock by the loud note of an Alpine horn, blown in the corridors of the house, to be ready at five to witness the splendid scene they were then enjoying. Armed with the same instrument, I directed my observation towards the great centre of my picture, with a coloured panoramic print of all the mountains and their names lying before me, on the window-sill of a third story. And so I sat watching, one after another, as they emerged from their vaporous haze, each spitz, or stock, or horn; some capped with snow, others with their bare and rugged sides, and between them dazzling glaciers of all shapes and forms, some square, some triangular, many lozenge-fashioned, and not a few like broad silvery ribands running down zigzag along the narrowest chasms and between cleft rocks and broken crags.

Whilst turning my eyes to the rugged and inaccessible sides of Pilatus on my right, on which late attempts have been made to cut out a zigzag footpath to its summit, there to establish a rival kulmhaus for hardy pedestrians, the melancholy fate came to my mind of a young and pious fellow-practitioner in medicine, Henry Edward Schedel, who, in July 1856, left Baden-Baden for Luzern,

with the sole object of scaling this mountain. "He set out to achieve this project one bright moonlight night. He was met by some labourers, who warned him that the road was dangerous, and advised him to take a guide. But however unknown and perilous the path, a guide's services he would never accept. He was nimble, muscular, and—partly from temperament, partly, perhaps, from weariness of life and from overwhelming melancholy—he despised fear. Next day, the 28th of July, his body was found hideously mangled." At the village of Hergisvil, on the margin of the lake, he now tastes of the rest which had long been denied him.

The delightful panorama, fronting the Schweitzer Haus and its handsome terrace, is equally enjoyed by other hotels, especially the English hotel, quite a new house, well furnished, and, as I learned, well conducted, with the people and servants very civil, which is more than I can say of the house I was in. Another great objection I have to the Swiss house is its vastness, which necessarily entails imperfect attendance, with domestics who either cannot, or choose not, to vouchsafe any information when interpellated; and oftener than not, give it you inaccurate. This I found on two occasions to my cost; first, as to the hour of divine service, and secondly, as to the hour of dinner service. Had I not looked sharp I should have missed both. As every article of charge is prized, and visitors adopt the tariff by accepting the mercenary hospitality in the hotel, there is no good ground for complaining of its dearness. The opinion of the natives on the subject of the extravagance of the hotels of their country is worth quoting, although, as they are ignorant of the still greater extravagance of London hotel prices to which Englishmen

as well as foreigners have to submit, they may wonder that those English who dwell in the Schweitzer Haus should consider themselves as living at a cheap rate. Wafted through the four lakes by way of an excursion to Fluellen, on a steamer which took me up at 6 a.m. one morning, in front of the hotel, I had occasion to enter into conversation with a gentleman, a native of the Canton of Uri—a remarkably shrewd-looking person, yet perfectly well bred, who most cheerfully undertook to instruct me on the principal objects that now and then presented themselves to our view as we proceeded, from promontory to glade and from one village to another, picking up and landing passengers at each and all of those stations. His opinion that Swiss hotels were extravagant in their charges was not of a new date. "They have never been otherwise," said he, "and a wonder to us Swiss is, that English and Americans, who come to pass a few weeks amongst our mountains, should not prefer to these extravagant caravanserai, the many nice, comfortable, and snug *pensions* which are scattered in most directions wherever there is either land or water, plain or mountain scenery, to enjoy and admire. Here, for instance, on the top of that great height we now tread the water-edge of, at a place called Seelitsberg, there are *pensions* overlooking the lake and the distant mountains, equally as good as those of Interlachen, yet cheaper. For four francs per day you are lodged in a separate room, and have four meals a-day, said to be excellent; cafè, and a variety of sorts of bread with butter, honey, or cheese for breakfast. Again, at a table-d'hôte dinner at half-after twelve o'clock, six different dishes, with pudding, *vin à part*. Then there is *a gouté* at four o'clock, and supper at eight p.m.

Several hundreds of strangers, English principally, French or Americans, and more ladies than gentlemen, have frequented these *pensions* in the present season." This information may prove useful to some of my wandering readers. *Il va s'en dire,* that my fellow-traveller took occasion to point out to my particular attention all the various spots to which attaches some stirring recollection of the Swiss struggles for liberty and independence in ancient as well as in more recent times. He stretched his finger towards the *Tellen Platte* as the steamer glided before that odd-looking niche, resembling one of the recesses which shelter the plastered Madonnas of the Romish worship, and exulted in recording the fact that on that promontory leapt the hero Tell from the boat, after he had slain the tyrant Gessler; and there grateful Uri erected the present little chapel. As we passed the Mythen, above which peers the crest of Glärnish, he reminded me that on those peaks, and in an opening called Muotta Thal, the famous bloody conflict took place between Massena and the Russian hordes who were retreating from their ill-starred invasion of Italy. All, in fact, added the enthusiastic Helvetian, around us in this magnificent lake, justly called the lake of the Four Cantons, by far the most splendid in our country, and perhaps in Europe, reminds us that this region was the sanctuary of liberty; that here the first confederacy was formed, while its borders became the scene of heroic deeds that secured to it the title of Tell county, and to the country its lasting independence from the hated rule of the House of Hapsburg.

There is a Tell at this moment, unstained by murder, amidst the lesser Lombard Alps, carrying the standard of Italian freedom from the same detested yoke, which,

with his good sword and the brave legions that follow him he strives to achieve. May those bands of heroes be as successful on the four lakes which their victories have already made famous, as the Helvetic chief on the Vier-Valdstädter See ; and let a similar mountain and lake region become equally the theatre of an Italian confederacy, and the birth-place of Italian liberty.

Landing for a short time at Fluellen, the *ultima Thule* of our steam expedition on the four lakes, and looking up to the ascending causeway, which the diligence to Milan was just entering with some of the passengers we had brought, who, in twenty-four hours, would reach that cherished native city—thoughts akin to these aspirations filled my mind, and I turned back with a sigh that such things should not be. Little did I expect what was likely to pass beyond the St. Gothard range then before me, within a few short months, calculated to give reality to my day-dreams. May God speed the good work, as it directed the arrow which sped with unerring aim into the apple of Swiss liberty.

On our return the lake was quite still. The mist had lifted itself up, like sham clouds in an opera ballet, when the landscape all around shone forth in all its various beauties and accidents of light and shadow. Many covered gondolas, and light double-pointed pleasure boats, were gliding on its smooth zaffir waters ; some rowed by females, others by both men and women, the figure and attitude of the former, viewed from a distance, being very attractive. The Luzern costume is pretty and coquettish ; it locates the bosom in a prominent yet easy position, decorating it with a coloured chemisette up to the throat, and supporting it by a low busk in front, of a dark or blue colour. A large flap

straw hat is indispensable, and long hanging tresses behind complete the costume, which, I grieve to say, is wasted on a generally ill-favoured female population, suffering under the additional disadvantage of having defective teeth. And yet Luzern's climate and air are justly reckoned as very healthy; and, in an ingenious experimental inquiry on the quantity of impure matter held in suspension in the atmosphere of different localities, recently developed at an evening lecture at the Royal Institution, we find that whereas the highest point of contamination is in an uncovered pigstye,= 109·7, the lowest of all, or where the contamination is the least, namely 1·4, is this identical Lake of Luzern!

Sauntering along the covered bridge over the rapid and blue Reuss, scanning the antique paintings that decorate its timber arches, I was accosted by a strikingly handsome person, accompanied by her young son, whom I had already noticed and admired in the train the day before, and again at night at the tea-table, without recognizing them. But a lady's memory is keener than their doctor's recollection? and such was the case in this instance, for we had not met for ten years, though living in the same metropolis, and mere chance was now to throw us together over the rushing stream of the Luzern River. She was in search of the English church, and as I had sallied forth with my book for the same purpose, I offered to escort her to the spot which I had had indicated to me. This we reached after some steep ascents and the mounting of some stairs, and found it to be the Romish church of St. Mary-at-Hill, which, at half-past three o'clock, is given up to the Rev. M. Anderson, the chaplain, who read the prayers, another clergyman giving us afterwards an ex-

tempore sermon. The church is large, and the altar had all its Romish ornaments, over which a black cloth had been thrown during the English service. There were present eighty-four persons of both sexes, and not, I must say, of the most attractive appearance. I understood, afterwards, that the largest number of that congregation are English families, permanently resident in Luzern.

The Swiss, like all who dwell on the highest prominences of the globe's surface, are simple in their imagination. The perpetual contemplation of the grand yet simple spectacle of mountain scenery, where the same object ever presents itself—mountain chains and alp on alp clad with snow, but without variation of structure or of outline, and even in coloring monotonous, whether splendid from reflected light, or sombre from shadowing clouds, or dazzling from white frozen snow—this sameness of contemplation prevents, in a mountaineer, all flight of imagination; but, *en revanche*, and for the same reasons, his simple ideas are always grand, like the natural objects he has for ever before his eyes. Hence, here as I sit opposite a huge sandstone rock, cleft in twain, emerging from the surface of a verdure-clad hillock, surrounded by trees, and with a murmuring stream by its side that falls into a basin at its base—I am reminded by one grand and simple figure, of a whole episode in the early part of the bloody tragedy of the great French revolution. The chisel of Thorwaldsen on the suggested idea of the Swiss General Pfyffer, carving out of this opportune monolythe a gigantic lion measuring 28 feet by 18, lays it prostrate under the infliction of a deadly wound, and by the broken spear, the Helvetic shield erect, and the fleur-de-lys, which it vainly strove to defend, placed under its paws, the

whole great fact of the Swiss Guards falling in defence of the sovereign they had sworn to protect, is told at once in unmistakable language. *Helvetiorum fidei et virtuti* is an inscription well deserved. This is the great lion of Luzern.

But it is time we should hurry home to prepare for the third or aristocratic table d'hôte, around which the company in the hotel and its two neighbouring houses assemble at half-after seven o'clock. The dinner was such as one would expect in so vast and well-appointed an establishment. The cuisine irreproachable. I had the good fortune to find myself seated by the side of Doctor M—, a native of Germany, who for many years resided in England, well known and greatly esteemed in that country, to whose Royal Court he was long attached as librarian to the Prince Consort. Equally fortunate and delightful was another rencontre with a party sitting opposite, consisting of a very old friend, once a leading yatro-psychologist in the metropolis, whose *dicta* had often swayed the decision of juries and commissioners in matters *de Lunatico*, but now resting from his mental toil, and enjoying, in the society of one of his sons and a highly-gifted and educated lady, his third wife, the delights of travelling, for which the whole party were so well qualified. The repast did not last beyond an hour—such being the present fashion at all the first-rate hotels on the Continent. Our party of five next adjourned for coffee at my friend's apartments in what is called the *dependance* of the hotel, a handsome modern building by the side of it, when a most agreeable hour soon glided away in hearing the lady, Mrs. S— recount, with graceful playfulness, the adventures of herself and husband during their tour through Spain, whose language was often had recourse to by the

fair narrator, when she ascertained I was myself familiar with it—a fact which added zest while it gave animation to the subject of her discourse. Say what you please, these accidental and happy *rencontres* in travelling form not an insignificant feature of this health-giving, heart-warming, and mind-strengthening practice.

But I am on my way to Vichy, and bent on reaching Geneva as expeditiously as rails can convey one. Thence a similar mode of conveyance has recently been completed to Lyons, a city which, next to Paris, unquestionably claims to be seen by one who has suffered a space of forty years to elapse since he last visited that second metropolis of France. I ascertained that, taking at once a ticket direct to Geneva and giving charge of my luggage to be re-delivered at that city, I should avoid much trouble and inconvenience during the many changes of 'bus, steam, and rail I was about to encounter. This, therefore, was done on arriving at the first station of Emmerbruck from the Luzern Post Office, whence we had been conveyed to it by omnibus a little after four o'clock in the morning. At Alten, where we breakfasted, the train is again changed to Herzogenbruck, where another change of train occurs, which took us to Niddau on the border of the Lake of Bienne. At that little port—which by the bye is undergoing enlargement and improvement—we arrived an hour at least before the steamer in correspondence from Neufchatel.

In the train I entered into conversation with a gentleman, a native of Strasburg, quick, intelligent, and well-informed, a dealer in woollen fabrics, who had commercial relations with England, Bradford, and Manchester especially, from whence he had but recently returned. In gliding along through the beautiful country between

Alten and Soleure—which latter place came upon us at once from the clearing up of the morning fog—I happened to remark on the sudden appearance of that gigantic wall, or screen of mountains, which rose in a long extended line behind the town, to the height of some thousand feet above it: when he reminded me that on the other side of those hills, which are a continuation of the mountain range commencing at Bâle, was the "pay de l'horlogerie. Il-y-a la une tres vaste vallon, fort étendu dans la quel tous les mouvemens des horloges vendu à Genève sont fait." No *pendule*, or clock, is manufactured there—and those which are called in England Swiss clocks, are made in that part of the Black Forest that belongs to Baden.

This same gentleman, whilst we were passing the Isle de St. Pierre, in the Lake of Neufchatel, described it to me (as, in fact, its aspect would denote) as being quite a *bijoux*. It is the property of the Hospital at Berne, and contains several important vineyards on its south side, and woods on the north, which was the side we were passing. A gentleman named König, of Berne, was the *Regisseur*, whose son had gone to settle in Manchester, whence in a few years he returned, having amassed a fortune of from six to eight hundred thousand francs, with which he retired to Berne, married a young and handsome wife, and died a few years afterwards of exhaustion.

Travellers *see* strange things, people say; but they oftener *hear* very strange ones. Hear the following little story from my identical informant, and see if events in this world are not strangely concatenated—or rather marvel at the strange combination of circumstances which reveals a fact, probably a novel one to my readers, and cer-

tainly new to me ;—namely, that the great idea which made Cobden a historical figure, sprung not, Minerva-like, from his brain, the offspring of genius, but was the well-rammed-in notion of Swiss political economy gained during many visits to Berne and to this very Isle of St. Pierre. My fellow-traveller and informant *loquitur* :—"König avait faite la connaissance de Cobden à Manchester, et je crois que cet homme (König) par cela même a influencé sur la destinée de l'Angleterre, puisque c'est lui qui persuadait d'année en année son ami Cobden, qu'il avait connu un tout petit commis dans un moulin de filature à Manchester, de venir avec lui en Suisse, ou il venait fréquemment ; et c'est la qu'il apprit les principes d'economie politique et institutions populaires qu'il s'appropria depuis, les faisant ses propres et meilleurs, et qui le conduisirent à la formation de la Ligue des blés." My informant had often seen Cobden on the occasion of those visits to Switzerland, where he met him at his father's ; and he describes him as being the most observing and inquisitive traveller, on all matters of public utility, he had ever seen—at the same time that he was in the domestic circle very amiable, full of *gentillesse* for his family, his sister, and his friends. He appeared to have no ambition beyond making his own particular views, in questions of political economy, triumph.

We were steaming down the Lake of Neufchatel, in which there are many narrow passes, more like the navigation of canals in Holland. Yverdun we reached at 2 p.m., where, at the temporary railway station, we took our places for Lausanne. On quitting that station, after ten minutes' delay, and passing through a very pretty rural district, the Lake with its encircling mountains burst suddenly upon us, as a glorious sight—Mont Blanc

exhibiting its rosy cones and peaks high above the range of mountains that fringed the water in front of it. The effect of light on its perpetual snow, as the sun went slowly down, can be better imagined than vividly described. Precisely at half-after 7 p.m. we reached the disembarcadero. With no difficulty was the luggage obtained, which, with myself, was consigned to the omnibus belonging to the Metropole (I sat alone in it). And here am I in that new, famed, and vast hotel of which report spoke so highly, but the reality of which brought none of the comforts of a more compact private establishment, where everything is *en regle*, and every *employé sous main*.

Calvinistic and ascetic Geneva has changed its outward garments. It is now like the apple growing by the Dead Sea: its inner bitter and sombre core has the outer shell of an Hesperian apple. Geneva of 1814, which used to close its gates at 9 p.m., to render a surprise impossible, and at 10 a.m. on Sundays, to prevent disturbance during the performance of prayers—has now no gates—dreads no assaults—has demolished its bastions—is easy and many-coloured in religion—and shows forth in gay—nay, in very brilliant colours. In one word, the Geneva I visited on my return from Italy in the autumn of 1814, when Coppet offered the great attraction of an evening passed in the society of Corinne, and of a couple of days spent in that of the greatest chemist of England and his talented lady, had left an impression of a melancholy cast with which the name of that city had been associated in my mind for forty-five years: when, lo! twenty-four hours of the present visit wipes that impression off as completely as a "dissolving view," to substitute a far different one, with which the name of Geneva will hereafter be asso-

ciated. Its vast improvements are still proceeding, both by the Lake side and in the interior. New streets and squares are planned out, especially near the railway station to Lyons, behind the Quai du Mont Blanc, which is a handsome continuation of the Quai des Bergues. This forms an entirely new fashionable quarter, in which are located the pretty new English church, and the extensive quadrangular building, called Hotel Victoria. A club, or casino, or, as some will have it, a house for some less legitimate purpose, magnificent in its interior, and showy externally, figures also in this quarter—the resort of foreigners properly introduced. The Maison Fazi, as it is called, will be found at the corner of the Rue du Mont Blanc. These improvements are all on the Jura side of the Lake: on that of the Mont Blanc or opposite side the movement is not less active. The quai in front of the Metropole Hotel and the Hotel d'Angleterre, in continuation of the Grand Quay, is decorated by public gardens. Adjoining to the Hotel a large square is planned, intersected by two wide streets, at right angles, respectively called Cour de Rive, and Pierre Fatio. The huge and ugly prison or penitentiary is being demolished to make room for these improvements. In another direction, towards the outskirts of the town, to which you ascend through the crooked hilly streets that formed the City of Calvin, until you arrive at the Place Neuve—we find clustered together, in a symmetrical form, the New Theatre at the angle of the Jardin Botanique, with the Museum right opposite; and between them, at the north of the *Place* the *Conservatoir de Musique*, now erecting and nigh completed—the gift to the city of citizen Bartoloni. It is decorated with several statues. Near to it, on the left and almost behind it, another equally

handsome edifice, with many columns, is erecting for the Freemasons, to whom the ground was conceded by the *Grand Conseil,* as was also another piece of land to the Jews, for the purpose of erecting a synagogue, now nearly finished, distinguished by a lofty dome, and contiguous to the *Grand Orient.* In fact, survey the antique city of Calvin and Jean Jacques, whichever way you please, along the entire semicircle around its innermost centre, and you perceive the hand of accretion, accumulation, and improvement of edifices and gardens, streets and squares at work, with a prodigality that knows no stint. Geneva looks, in fact, like a new city, *en construction.*

Whilst surveying these bewildering novelties, a well-dressed elderly gentleman who had stood some time observing me in the act of taking notes, approached me, when I ventured to address him by inquiring the name and destination of some of these edifices; all of them, by the by, marked by taste and beauty of design. He entered calmly into an explanation of their objects and their history, mingling not a few remarks on the ruinous manner of the so-called *progress* which, in his opinion, tended only to increase pauperism. Every old building is now demolished; new and splendid edifices take their place; but not a single corner is assigned for some building destined to shelter the workpeople who are attracted hither from all parts of Switzerland, and will remain, and their children, quiet whilst there is work for them, but not after; should they find neither work nor shelter. "*Ce sont les ouvriers qui ont fait les revolutions.*" He then inveighed, but always in a calm tone of voice, against one of the two brothers Fazi, nick-named *Jacko,* who has converted his handsome palace into a *cercle des*

étrangers, in which, under the guise of invitation, people assembled, as if in a club, but in reality to gamble. A stranger may be admitted, even for one evening, by paying one day's subscription. This *Jacko* is actually Vice-president of the *Grand Conseil* and a *Conseiller d' Etat.* As such, he has contrived, with the help of the Catholic members he has succeeded in getting elected into the *Grand Conseil*, to acquire immense preponderance in it, where he is absolutely a despot, *et dans nôtre petit pays Protestant une majorité de Catholiques agitent, discutent, et votent des mesures ou des loix qui affectent nous Protestans, mais cet homme, tout Genevois qu'il est, et ses ancéstres n' a pas de patriotisme. Enfin,* NOTRE NATIONALITÉ S'EFFACE *!*"—I care not to proceed with the farther remonstrances of my quiet burgher, as I found him to be, against the anti-patriotic citizen, James Fazi. The sudden appearance of a long procession of men, all clad in black, with white gloves, changed the tone of our conversation. They had round their right arm an *echarpe* of white cloth, and were following, accompanied by a minister, a plain coffin carried by six men, which my informant told me contained the corpse of a wealthy brewer, who had died, after two days' illness, of dropsy in the abdomen, and who had been always considered to be fat. Only a few days before, whilst my informant was drinking a glass of his renowned beer in his establishment, the *brasseur* told him that though young and well, he felt certain he should not live long.

Nothing can surpass in beauty and splendour the magnificent panoramic line that stretches in a semicircle beyond and including what is called the *port* of the lake, as seen from the front windows of the dining-room of the Metropole, which resembles, in form, the

drawing-room of the Athenæum Club in London. While seated at a separate breakfast table with Mr. B., one of the members for West Surrey, whom I had recognised at tea the evening before, we could not help uttering simultaneously an expression of rapture at the rich landscape seen through the open casement before us on a splendid day. The line of the Jura stretching on our left backing the nearer ranges of villas and gardens close to the shore, and the glorious Mont Blanc, with the Savoy Mountains extending on our right. A sheet of warm sunshine lay spread over the entire visible expanse. Blue and smooth like a cut amethyst looks the broad water of the lake beyond the precincts of the Port, within which a more silvery hue covers the unruffled surface. As a foreground a smiling flower garden, and between it and the hotel the bustling thoroughfare of the Grand Quai. This garden, a new creation, is a public promenade with a chalet lodge at each end entrance. Attached to the lamp-posts is the following Athenian mode of cautioning the public against damaging, &c., differing from the coarse and despotic threats of overcivilized Governments:—"Trespassers beware;" "trespassers will be prosecuted." Not so is the language of the *Grand Conseil* to his fellow-citizens:—"Les promenades publiques etant destinées à l'utilité et l'agrement de tous, Le Conseil administratif les met sous la sauve-guarde des citoyens."

In quitting the Metropole on my way to Lyons, I could not conscientiously answer in the affirmative the question put to me by its good-natured and indefatigable proprietor, M. Wobold, whether I was satisfied. The cuisine, I told him, and the beds, are unexceptionable; your rooms are magnificently and profusely furnished,

but the attendance is imperfect, and your servants, beginning with the coxcomb who enacts the part of Maître d'Hotel in the great Salle à Manger, and the domestics *tutti quanti*, though dressed all neatly and uniformly in black or dark clothing, lack the alacrity and *manière affable* of French *garçons*. Yours are more abrupt and rough than quick and obliging. I look upon the internal structure of this vast hotel as most defective; a large waste of room is caused by the very peculiar arrangement of its double great staircase, and its enormous landing-places and spreading galleries, leading to the different apartments, some of which are reached through dark corridors. On each flat there is, at both ends, a table and a chair for the *garçon de service*, who keeps a book of the strangers on that flat on his side of the house; a female attendant is likewise *censée* to be always present; but there is no regular *chambre de service*. There is a *Salle de Lecture* below, with newspapers; and a *Salle de Conversation* adjoining the *Grand Salle à Manger*, in which I especially noticed the almost totality of English guests seated at the more exclusive table-d'hôte of six o'clock. Altogether, I cannot say that this proclaimed wonder of Switzerland, above all the other hostelries of that thrifty nation, left an impression that would make me wish to revisit it.

I consider the newly opened railroad from Geneva direct to Paris through Lyons, a finer road than either of the two other lines from Manheim or Strasburg. Following the valley of the Rhône, it opens to view some of the most picturesque accidents and deep gorges of that mysterious river, encased at times between perpendicular banks of stratified limestone of an old age, and, at other times, scooping its passage between deep

chasms with a deafening noisy course which, at one particular spot, suddenly ceases, and the stream vanishes, not to appear again until, at another gorge, the foaming water surges once more. There are, as may be supposed, a great number of tunnels, one of which, I fancy, is the longest I have gone through in my present journey, not excepted the one between Luzern and Geneva, which, reckoning by the beatings of my pulse, occupied six minutes and a-half in passing, at the rate of twenty miles an hour. The present tunnel carried us through the Jura, whose splendid screen of ancient rocks we left behind us. Until within a few stations off Lyons the country is really beautiful, and, in many parts remarkable. Not so nearer Lyons. The fare from Geneva to Lyons was 18 francs; that from Luzern to Geneva, luggage included, 22 francs. Impossible to travel cheaper or better.

I am at the Grand Hotel de Lyon, in the Rue Imperiale, the one and the other the creation of two years—the latter at Louis Napoleon's command; the former at the bidding and risk of a society of shareholders, like the company which works out the Grand Hotel du Louvre. There are many hotels of good repute in Lyons, but this, which occupies the centre of a long, wide, and magnificent street, opposite the Palais de la Bourse now erecting, is deservedly considered the first. It is aristocratic in all its bearings, without exception, and the chef is held to be a cordon-bleu *de la première force*, as I was assured by both General and Mrs. H., near whom I happened to be seated at the table d'hôte of the fashionable late hour, and whom I recognized as old acquaintances of former years. There is no travelling *incog.* now-a-days!

In my bedroom, which was on the first floor, and in front, I found this script hung by the side of the large chimney mirror, which may be a guide to some of my readers—*Chambre No.* 12, *front :* 6 *francs par jour, service* 1 *franc :* tea or coffee, with bread, butter, sugar, and milk, in the private room, 1½ francs ; in the Salon, 1fr. 25c. : two boiled eggs, half a franc : table d'hôte at five o'clock precisely, 4 francs : a candle, 1 franc : a veilleuse, ½ franc." Hence we may live in this palatial residence, occupying a well-furnished chamber, with proper conveniences for a sitting-room, enjoy the privileges of the Salon to receive one's friends, breakfast soberly, yet sufficiently, and dine *à perfection*—again take tea later in the evening, burn a wax-candle and have a night light, with suitable attendance, for the total sum of 16 francs, or 13s. 4d. per diem. One cannot play the *grand Seigneur* at a more moderate rate, and so my friends will find if they visit the Grand Hotel de la Ville de Lyon.

What a wonderfully striking city this very Ville de Lyon is, especially since it has felt, and is still in progress of feeling, the transforming and creating hands of Him who, in five years, raised in the centre of Paris two noble quadrangles of an architectural palace unequalled in Europe ; pierced a noble street on the site of wretched lanes and unwholesome *impasses*, and threw open a wide and lengthened thoroughfare from the Seine to the Quai de Strasbourg in commemoration of the deeds at Sebastopol ! Here, in a similar manner, new streets, new quais, new squares, new public edifices—some finished, others only just marked out, and many more *en construction*—show the same quick and impatient desire of the Ruler to make provision for the comforts of the ruled ; and not only so, but also for grander objects, of which

as Lyonese they might be proud. Certainly, when I bring to my mind what Lyons appeared to me in 1819, which left an impression of the same sort as I have experienced on leaving Liège, Manchester, or Bradford, or any other smoky, sooty, soiled, or stinking manufacturing town, and I look to its present improved condition, I cannot resist the conviction that despotic rulers are the most effectual improvers, purifiers, and amenders of huddled, unwholesome, and wretched cities, because they are prompt and uncontrolled. The same splendid position between two wide and parallelly-coursing magnificent rivers, the Saône and the Rhône existed for Lyons in 1819 as it exists at present. But see how differently those two watercourses have been made to purify and to embellish the city! Look at its splendid and almost interminable quays—view its eighteen or twenty bridges—examine the new edifices and its rail stations! Walk to the south side of the Rhône, and see how the modern hand of improvement is changing the trite and revolutionary-looking quartiers *dela Guillotière* and *Les Brotteaux*—in which 220 citizens of Lyons were shot after the siege by the butcher Collot—into some of the gayest fauxbourgs, or districts, wherein is found, among other remarkable edifices, the famous Alcazar, a Saracenic rotunda capable of holding 6,000 persons during the masked balls for which the building is erected. This mass alone of wide-spread ameliorations would suffice to justify my assertion that Lyons is "a new city." But take your stand on the lofty Terrace in front of the embarcadero of the *Chemin de Fer de St. Etienne* on the *quai Perrache*, and a splendid view looking eastward presents itself. On the left, the Hill of *Nôtre Dame de Fourrière*; and Lyons at our feet. Right underneath, a quadruple

avenue of trees, in imitation of the Champs Elysées, here called *Cours Napoleon*. In front, the *Place Napoleon*, with the equestrian statue of the hero in bronze, as he must have been seen thousands of times, his right-hand in his breast, standing still on his charger, surveying Lyons, and reflecting. The horse, as if proud of its rider, holds its head high, its neck heroically curved and swelled—none of your jockey-looking affairs, as you behold on the Arch on Constitution Hill. The pedestal chastely ornamented with bas-reliefs, and standing upon steps surrounded by by a *bronze grille*, is in perfect harmony with the statue. There is around the square a double line of trees, and the line of demarcation of the street which runs on each of the four sides in front of lofty houses, is ingeniously formed by a continuous line of stone dwarf benches that serve alike as resting-places for foot-passengers, and as effectual barriers to the intrusion of carriages into the inner square. The Regent Street of Lyons is the New Rue Imperiale, which extends from a great and gay square called Place de Louis le Grand, passing through the Place Imperiale, decorated with a fountain and garden, to the *Place de la Comedie*, on the right of which is the indifferent façade of the Theatre, of the interior of which I cannot give a very brilliant account; and on the left, an extensive and remarkable building, the Hotel de Ville. The display of *magazins* of every sort, especially of silks and *orfevrerie* in this street, with a prodigious number of Cafés, all of them crowded as on the *Boulevard des Italiens*, and at night brilliantly lighted up with gas and reflecting mirrors, constitute the centre of attraction through which gay equipages, equal to any Parisian turn-out, are seen daily passing and re-passing, adding to the constant buzz and incessant noise that

mark the day in this fashionable region, where, after twelve o'clock at night a dead silence reigns, broken only at intervals by the tramping of Gendarmes' horses patrolling this remarkable thoroughfare and its vicinity.

Ere I left Lyons I felt a great desire to visit the purlieus in which the workmen in silk stuffs congregate, and as these lie scattered on the steep brows of the Fourvière Hill, from the summit of which I was told I should enjoy the most extensive and splendid view of Lyons and surrounding country; I determined on ascending to it after my return along the *Chaussée de Perrache*, from viewing the point of confluence of the two rivers at the *Pont de la Mulatière*, where the two waters fraternize in the most tranquil and unmurmuring manner possible.

Nôtre Dame de Fourvière is a church which marks the summit of the said hill, and, like a beacon, is seen from all points the gilt statue of the Virgin Mary that surmounts the cupola, forming a very striking object. It has recently been restored; and a modern inscription in French over the old entrance tells us that pious devotees have contributed to its restoration and re-dedication to the Mother of Jesus for her timely intercession on behalf of her favoured people of Lyons, in preserving them from the cholera in 1832-35. A hundred of votive records cover the walls inside, consisting chiefly of embroidered or tapestry work tablets, with verses or simple inscriptions expressive of thankfulness and love to the Virgin. Others are simply inscribed with "Marques de reconnaissance," or "Souvenir" from *Marie*, or *Julie*, or, in fact, from almost every denomination of females. Not one from a male worshipper. Lighted tapers also, innumerable, waste their light and wax in space and

silence on iron tripods or many-branched standards of brass, being, also, votive expressions of gratitude and devotion. To save trouble to the devotee eager to imitate these examples of piety, almost every species and form of these *souvenirs*, ready made and in all possible degree of cheap manufacture, are offered outside the church by smart young lasses occupying little shops which line the side of the very steep ascent to the highest point of the hill. "Voyons, beau monsieur! achetez moi donc un souvenir, une medaille." Such is the *agaçante* invitation to the passer-by from these "marchandes d'objets de pitié," as I read written in large letters over their shops.

Into one of these depositories I entered, more as an excuse for resting my wearied limbs and pick the brains of the coquettish-looking *vendeuse*, if she had any, than with the intention of decking myself with amulets. Nevertheless, the quick-eyed and nimble lass succeeded in making me buy some of her wares, among which books of devotion formed rather a prominent portion. Of these she specially recommended Le Miroir des Ames, or "An Exposition of the different States of the Soul in reference to God, conformably to Reality, or to the Allegorical Ideas of Faith"; and with even more earnestness she pressed on me the "Revelations de Sainte Brigitte, Princesse de Suede," for the first time translated into Latin; both of which I purchased by way of payment for my footing! I have witnessed bigotry and superstition in every country where reigns supreme the Romish creed, whether under the garb of ceremonies, or worship, or of preaching, and publishing of books—but in no place have I met a worse specimen of all these than I met here in the centre of highly civilised France and the middle of the nineteenth century, among the pages of

the first-named volume and its sixteen illustrative copper plates, under material symbols and figures. These plates represent the various conditions of the sinning or repentant Christian soul, with the relative emblems of the Deity and Satan, the latter hideous to behold. I could not help exclaiming—"Surely the wretched beings I have just beheld in ascending your perpendicular *Montée de Garrilan* cannot purchase books like these? Or, are the richer devotees and your officials from the City your principal customers?" "Helas! ni les un ni les autres—les premiers sont trop pauvres pour avoir de la religion, et pour les gens riches ou ceux qui nous gouvernent, ils ne montent jamais ici."

Both the *Montée de Garrilan* in the quartier St. Jean, by which I slowly ascended to this Holy Shrine, as well as the *Montée des Epies*, quartier St. George, by which I descended, offer to the pedestrian observer the quintessence, at one and the same time, of Lyons's great wealth and wretchedness—of its most delicate objects of luxury and squalor; for there are the dwellings of those artificers, whose handicraft has given to their native city, all over the civilized world, the renown of being first among the workers in silk for taste, design, and execution. There they are, those celebrated *ateliers* in which the operations that serve to secure such a renown to Lyons are carried on by day and by night. There, along winding, tortuous, and almost perpendicular côtes or hills, to the extent of more than a mile, in many parts of which access from a lower to a higher portion can only be had by a flight of steps, stretch successive ranges of low cottages, through the unglazed casements of which you behold, at one view, the interior stripped of almost every thing but dirt, which appears to have reigned supreme

and undisturbed for years. The wretched aspect of each of these interiors is only relieved by the sight of the handloom at work on the lustrous taffetas and satins, the soft and wavy velvet, the splendid brocade, and those fabulous ribbons which form the envy of our fairest world-mates and the boast of France. How hands so coarse, and fingers so black, can deal with the threads and yarns of such delicately-coloured materials on the rollers and between the laines ; or how preserve unsullied, and with their vivid and resplendent surfaces, the delicately-wove stuff, as the weaving shuttle is made to glide right and left through them, is a problem I cared not to stop to unravel, or seek to have explained. The result of the various steps of that operation, which was to send down to the gorgeous shops and warehouses of the City the so-called, *par excellence*, "Etoffes de Lyons," was before me in these wretched abodes. I beheld, and wondered how it could be, that such magnificent and dazzling productions could be the work of a half-starved and careworn-looking man, ever tied to his loom, whilst an equally piteous-looking wife kept winding or unwinding as may be, silk threads, one foot the while engaged in rocking a wooden cradle, with a brat in it unencumbered by garments, and whom water had never touched from its birth. Of such *ateliers* at least 15,000 are supposed to be at work in and about the City of Lyons, and the looms in them to amount to 25,000, in which two hundred different sorts of silk stuffs are manufactured.

The prospect before the humble dwellings of these miserable artisans, owing to their situation, is not more encouraging. A rough pavement, looking more like the bed of a torrent—often a "pic," constitutes the street, down

which courses the rain impetuously, and with the noise of a water-fall—depositing on the flats or resting places, the filth which the water has swept from the upper region; and which remains *entassé* in dry weather right opposite their doors.

A French writer on the arts and manufactures of France, alluding to the superiority of French, and especially of Lyons silk, which he contends will never be equalled, still less exceeded, in beauty and durability by foreigners, assigns two causes of such a superiority, one of which is the source of the very picture of wretchedness I had witnessed at every step in my fatigueing up-rambles. His words are worth quoting for the edification of our philanthropists, who consider the hard fate of London shirt-makers and needlewomen unequalled in any other city of Europe. "Il est une cause à ajouter à celle ci (the incessant demand by fashion of fresh changes and invention of design), plus puissante qu' elle sans doute, mais qui malheureusement porte dans son sein le germe de la destruction; c'est le besoin devourant qu'un monde d' ouvriers ne saurait satisfaire, qui par le travail forcé de *seize* à *dishuit* heures de jour; qui par le logement le plus exigu, le vétement plus pauvre—toutes choses qui pour remplir d'or les mains de ceux qui emploient les malheureux, ne mênent pas moins ceux-ci au tombeau par la voie de la largueur, plutôt que de prolonger leur vie et d-'y-repandre des jouissances."

I was perfectly *navré* at the sight of such misery springing from luxury, yet ministering to it, nay creating it, to the perpetuation of its own wretched destiny; and so I took my flight from the city of brocades, on to Vichy, where I arrived towards the close of the day,

after engaging a private carriage to it from the station of S. Germain des Fossés. The railroad from Lyons to that station passes through St. Etienne and Roanne on the Loire (which we crossed per bus) measuring 202 kilometres, and traverses some of the less-favoured districts of France, whether as to natural aspect or agricultural appearances. Indeed, I find it marked in my notes, taken while travelling to Roanne, that "the country around this town and all the way is remarkable for its indifferent state of culture;" yet the land is cheap, as a fellow-traveller in the same carriage, and an inhabitant of the province, informed me. A farm, with all the buildings and *bestiaux* that may happen to be on it, may be had for 500 or 600 francs per hectare. Capital, knowledge of agriculture, and industry, brought into this department and applied to the purchase and cultivation of land, would produce results of triple the value in ten years. The culture is almost wholly spade husbandry; much of it is fallow land, and the entire surface of the country within scan, right and left, exhibited unmistakeable signs of either ignorance of sound agricultural science, or indolence and indifference on the part of the landowners. As to the appearance of the villages, hardly that of hamlets, more properly speaking, never was humanity kept in such a state of abjection as was visible at all the inhabited places we went through. The cultivation of flax, which seems to be very common in these parts, is accompanied by its usual concomitants —retardation in the next crop—thus losing an opportunity of a more improved culture. There is an air of unsystematic management of the land as a culminating feature of all we saw. The old villages of Gemunden or Hammelburg, in Bavaria, could hardly exhibit a greater

degree of poverty-stricken dwellings, as constitute the villages I passed through after I left the rail, and took to a carriage. The most amusing part of the scene was the *Ecriteau*, staring one in the face at the entrance as well as the exit of every one of these poverty-stricken hamlets, on which I read, inscribed in *lettres majuscules*, "La mendicité est defendrie dans le Department de l'Allier." No fear that any beggar would come to solicit alms from such fellow-sufferers.

But there is no evil without its redeeming element, and, accordingly, we find that the material living in these parts is cheap. Thus at Roanne on the Loire, where the train was detained a couple of hours at the then temporary, now, no doubt, finished and handsome station, I tried my luck at the buffet *de la première classe*, where, in five minutes, my travelling informant, a native, and myself, were served at a separate table by a smart quick-limbed wench, a goûté that would have done credit to the Louvre; an excellent *potage au vermicel*, *bœuf-cotelettes*, *poisson*, that is, two delicious barbets just caught in the Loire, *saucisson*, *poulet roti*, *salade*, French beans, stewed peaches, *fromage*, *dessert*, and a demi-bouteille, each of us, of St. Nizier sur Loire—total trois francs! I learned on the same occasion that the *vin d'Hervé* and the *vins de Boutteaux* are the best wines of that part of the Loire.

Thus freighted, and under their inspiriting impression, I approached and entered Vichy.

II.

VISIT TO ONE OF THE PRINCIPAL PHYSICIANS—FRIENDLY RECEPTION—FREEMASONRY OF AUTHORS—RETROSPECT, AND PROSPECTS OF VICHY—INSPECTION OF HOSPITALS AND MINERAL SPRINGS.

II.

Having been safely landed, after a drive of an hour and a-half, at the Hôtel Dubessay, Rue de Paris, from the railway station of S. Germain des Fossés, I lost no time in seeking the abode of Doctor Barthez, who had been named to me as the chief physician of the Military Hydropathic Hospital of Vichy, and one of the leading practitioners during the season. As the author of one of the most esteemed works on the mineral waters of Vichy, of which five editions have already appeared, and other valuable publications, his name was familiar to me; and although I had not the honour of a personal acquaintance, I hesitated not to call on him and claim his assistance in the inquiry I had come to Vichy to carry out, in the interest of my own patients and of the place itself. I need hardly add that my reception by Doctor Barthez fully realised the expectation which a newly-arrived stranger, relying on his knowledge of the urbanity of Frenchmen in general, and of the courteous manner of a

well-bred French physician in particular, is warranted in forming. On the name of the visitor being mentioned by the servant, nothing could have been more cordial than his reception.

Say what you please, there are advantages, when on your travels, in bearing along with you the character of a successful author, especially among medical men of different countries, which those only who have tangibly experienced those advantages know how to value. A work of general interest, directed to some particular object of importance to the whole community, first handed about in the country which has produced it, acquires notoriety; its usefulness is soon made out; its reputation crosses the frontier, and a translation puts foreigners in possession of its valuable contents. The author's name journeys along with the book, which, with that name imprinted upon the title-page, becomes at once a general letter of introduction for the writer. He requires no other, to secure the acquaintance of the learned and the literary in whatever part of Europe or the United States his steps may lead him to. He possesses the Freemason's password—the shibolaz which secures to him the recognition and the good-will of those who, similarly qualified with himself, are happy to reciprocate the good wishes, and not unfrequently the good deeds, of their mutual brotherhood. Thus it has often been with the writer of these pages, especially in the country of which he is about to treat; but above all, in Germany, for whose benefit he has published more than one volume which has met with a return of gratitude and kindness that will never be forgotten.

On the present occasion the truth of the preceding observations was most agreeably confirmed.

That I found myself in the presence of a perfect gentleman, his whole manner and bearing at once decided; and when I took a seat by the table in his study, into which I had been at once introduced, we found ourselves reciprocally at ease, and as intimate as if the respective knowledge we had of each other's medical writings and personal character was as good as years of personal acquaintance. Certainly the French idiom is the language of complimentary introduction, and the one by which a total stranger can make more rapid strides towards unreservedness of conversation. I have ever found it so, no matter in what country my travelling steps have directed me; and the native who observed that French was "la langue de la conversation par excellence," spake truly without being too vain. I think, also, that in matters of self-introduction, and the happy facility of social intercourse among brethren of the same craft and standing, I am indebted to both for acquaintances and friendships which, albeit hastily made, have ripened with age, and have endured, though distance and time would have conspired to obliterate them. This is no idle digression: it is a tribute to truth, and one of respect, at the same time, to a profession whose intrinsic worth is not its only recommendation.

It being too late, for that day, to visit the springs, it was arranged that Dr. Barthez should call at my hotel after an early breakfast, in his carriage, on the morrow, and take me round to the several establishments I had come to examine at Vichy. In the mean time he proceeded to give me a general insight of the *carte du pays*, its sayings and doings; and then, coming to his own particular department, the civil practice, and that of the Military Hospital, he explained to me the mode adopted

in the latter establishment with the view to ensure an accurate and faithful return of all the cases treated in it with the mineral waters and baths of Vichy, for the information of the high military authorities in Paris. Of this I shall have occasion to speak at greater length when treating of the efficacy of the Vichy waters in various diseases.

"You will probably be desirous of knowing," observed my communicative host, "something of our medical staff. Most of them have already taken their departure back to the metropolis, whence they come, like myself, for the season—which commences on the 15th of May, and terminates on the 15th of September. My position as Physician-in-Chief of the Military Hospital—which I shall be happy to show you in detail to-morrow—detains me here nearly to the last, as I am expected to draw up and present an official report to the authorities in the Ministry of War, respecting the number of patients received and treated by mineral waters, the nature of their complaint, and the result of the treatment, together with its duration. You shall have an opportunity of seeing in the secretary's office to-morrow the *cahiers* and printed forms by which we collect and keep the notes of each case, and of its termination; and I think you will agree with me that it is not possible to tell the real value of a mineral water treatment in a more precise and unobjectionable as well as satisfactory manner. There is also an *Hôpital civil*, of which Dr. Noyer is the Physician-in-chief. Dr. Durand-Fardel is the regularly-appointed inspector of one of the sources, which, properly speaking, cannot be considered as belonging to Vichy, since it lies on the other side of the river, at a place called Hauterive. This title of *Inspecteur* gives the practising

physician a standing, and ensures at the same time the safe guardianship of the source, while it inspires confidence in the patients."

"I have," I said, "perused some charming letters on Vichy by the medical gentleman you have last named. His work, neither too popularly written, nor too pedagogic, evidently tends to the overthrowing of some antiquated prejudices and notions,—to the promotion of several necessary ameliorations;—and there is in the style, as well as the tenor of his letters, a smack of what we should call 'a spirit of reform,' which I have no doubt made him encounter a tolerable array of hostility. He no doubt had in view some of his contemporary physicians and writers on the waters of this place, who had emitted opinions far too positive and empirical on the virtue of these waters, when he observes—'Avouons donc nettement nótre ignorance lorsqu'il s'agit d'apprecier le mode d'action des eaux minerales dans le traitement des maladies chroniques. . . . . Tachons de pénétrer le plus avant possible dans la récherche des rapports qui approprient la medication au maladie: mais de cet étude pleine de doutes et d'incertitudes à une systematisation absolue il-y-a encore tout un monde à parcourir.' Do not let us, through damaging hypotheses perhaps, praiseworthy essays at best—be led into imprudent affirmations, and impossible doctrines. The only ground on which we will in future pursue our studies, is the observation of the modifications which the human organism, whether sound or otherwise, undergoes through the influence of the adopted medical treatment. Such is, after all, the only sure and safe guide in the choice and application of the remedy to be employed."

"The author you have quoted," retorted Dr. Barthez, "has unquestionably done his best to stimulate the authorities in the country to the accomplishment of several necessary improvements. He calls for the 'reorganisation complête de Vichy; afin qu'il soit donné satisfaction à tous les besoins de la médication thermale.'"

"I think Mons. Durand-Fardel," said I, "is rather hard on Dr. Petit, and does not spare Mons. Nicolas; nor is there any doubt but that he intended a slight hit at your own dissolving theory, when he says that 'M. Barthez croit que l'eau de Vichy dissout les muscles de ceux qui en font usage, en respectant la graisse; tandis que M. Petit croit que ces mêmes eaux dissolvent la graisse de ceux qui en ont, aprés en avoir fait un savon.'"

"Be that as it may," I added to my host," my object in coming to Vichy was to become acquainted with the place, its past and present history, and the nature and use of its waters—and not to discuss doctrines or theories as to the comparative merit and value of the many publications of which Vichy has been the subject. For such a purpose I accept, with pleasure, the copy of your last edition, which I will take home and read, since it contains a sketch of the history of Vichy, as well as an account of the very recent changes and improvements, which the copy of your work I had before consulted did not allude to; and I will look through its pages before I retire to rest, that I may be prepared to understand your references when we visit the several establishments you are good enough to say you will introduce me to on the morrow."

With this I took my leave of Mons. Barthez, and returned to my hotel, escorted by his servant; for it was a pitch-dark night, and although the distance from his

residence in the Rue Lucas to the Hotel Dubessais be only a few hundred yards, to a man short-sighted and a stranger to the place, it would have been as bewildering as a distance of as many miles.

I found the passage indoors encumbered with trunks, and other preparations for a departure, which was to take place at early morn. "C'est une demoiselle de vos compatriotes qui part," said the staid lady of the house, whilst she was giving directions to make room for me to proceed up stairs. "Voila son nom, elle est restée chez nous plus de quatre semaines, et nous regreterons bien son absence: elle promêt de revenir, car elle a èté très contente de sa cure et de nous, j'ose le dire." She pointed, while thus addressing me, to a card, fixed, like many more, in a wooden frame attached to the wall, in which the cards of the respective inmates in the house were arranged in lines, and numbered according to the room they occupied—a contrivance, by the bye, to be found at all the Hotels and Boarding-houses, and a very convenient one for the dwellers therein, as well as for those who have to visit them.

After a light repast, which was certainly needed, considering the many hours of railway travelling, without the chance of a halt for a decent refreshment, after I visited Roanne, I betook myself to the pleasing occupation of perusing Dr. Barthez observations on the "Vichy d'autrefois," and the "Vichy d' a present." Etymologists are no better than punsters. How do my readers think that historians ascertained the antique origin of Vichy, and its name? The first by a stretch of probability; the second by a pun on its etymology! In the table of Theodosius the Emperor, the village in which the warm sources were found is called *Vicus Calidus*. The French

topographers called it *Village Chaud;* and nomenclators, who clip names by half, as Jews clip coin, taking "Vi" from *Village*, and "Cha," which they pronounce Chi, from *Chaud*, constructed the far-famed name of *Vichy*, now a most important place in the estimation of hydrologists.

That in very ancient times Vichy was frequented for its baths is rendered more than probable by the existence of a number of objects that have been brought to light from time to time, and the remains of Roman structures connected with the process of bathing. Some collections are even now to be seen in Vichy of statuettes, terracottas, potteries, small bronze Greek and Roman coins, as well as large medals of Augustus, Agrippa, Claudius, and Trajan. In fact, during the first and second centuries the *Aquæ calidæ* must have been in great request. It is probable *the* Cæsar degusted of these springs as he crossed the bridge over the Allier, following the Roman Road from Clermont to Roanne, on his return from the siege of Gergovià.

The inroad of the Northern barbarians into Gaul was felt in its devastations by Vichy, as it had been all over the centre of France—all the Roman edifices were destroyed; and we get no positive information of the condition of Vichy until the twelfth century, when it was a considerable town, divided into several sections or *quartiers;* the first of which was that part in which the great thermal establishment now is, while the fourth, called *Chateauxfranc*, forms the site of the present town.

To Louis the XI. Vichy owes its importance. That monarch had selected for his last residence in this world the Convent of the *Celestins*, which he founded, and where now one of the most admired of the waters of

Vichy flows in stinted streams. He encircled Vichy with walls, paved the streets, and fortified it—erecting seven towers for its defence, one only of which, the loftiest, exists still, and serves as a belfry and clock tower. There are still vestiges of the ancient city in some of the highways and narrow lanes of old Vichy, exhibiting specimens of the architecture of the thirteenth century. On a fountain in the square, called the "Trois Cornets," there is the date of 1383 still extant. The Parish Church is a monument of the same epoch.

A squabble between Charles, Duc of Bourbonnais and the Dauphin, Duc de Bourbon, which, in our time, would be called "a row," led to the unnatural interference of a father against his son, which ended in the hypocritical submission of Louis "le dissimulé." (How well Kean represents that character!) The sixteenth century saw five or six other strifes in and about Vichy, in which the richest establishment, as a matter of course, the Convent of the Celestins, suffered the most. Its elevated and easily-fortified position, moreover, made it a notable object of both defence and attack, and consequently, at each new deed of arms the Monks and their property went to the wall. But as Monks in those times possessed the same privilege that cats have, namely, of having nine lives, those frocked and crown-shaven anchorets very soon rallied again and flourished. They have now, however, disappeared altogether—at least, I perceived no traces of them near the source of the Celestins.

It was at the commencement of the 17th century that Henry IV deemed it advisable to appoint persons properly qualified to the *surveillance* and maintenance of the sources, under the name of *Intendants:* a title which was changed for that of *Inspecteur,* on the nomination of

Mons. Lucas in 1802, by Napoleon. During that century, the baths of Vichy acquired sufficient celebrity to attract various personages of distinction, amongst whom figures the charming name of Madame de Sevigné. Three quarters of a century later, two differently distinguished persons came to seek health from the Vichy fountain—namely, the Royal Princesses of France, Adelaide and Victoria. To them is due the restoration of the *Puits Carré* and the *Source des Dames.*

Let us now cast a glance at "Vichy d'a-present," which is divided into two parts—*Vichy la Ville* the old town or bourg, and *Vichy les Bains* or the modern town—a creation of the last very few years. Two enterprising brothers named Brousson, having, in 1833, become lessees of the Crown Source for the space of nine years, on payment of an annual sum of 26,000 francs, undertook to sink artesian wells in search of more mineral waters, some of which are still in action. At the expiration of the contract, the Crown administered the domain until June 1853, when by a decree inserted in the *Bulletin des Lois* of the 10th of June, of that year, the government made over its rights to a company of shareholders, represented by Messrs. Lebobe and Callou, the former of whom is since dead, for the space of thirty-three years. There are covenants attached to the lease, which tend to benefit Vichy and its philantrophic instititutions; and which have given rise also to marked and extensive ameliorations of all sorts, executed by the society. Government, at the same time, have reserved to themselves the direction of whatever works may become necessary for the preservation and conduction of the waters, and have fixed a tariff of prices for the baths, as well as for the sale of the waters for exportation.

Punctually at the hour appointed, 7 a.m., Doctor

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Barthez drove up to my door in his open calêche, and we at once proceeded to our day's work. One by one the several springs were visited, carefully examined, their temperature and taste ascertained, their specific application in disease mentioned, and anecdotes concerning their effects on particular individuals related. Explanations were required by me in some instances, which were afforded readily, and with much courtesy; nor were such criticisms, as my observation and experience suggested, received with less urbanity.

Our tour of visits began, of course, at *La Grande Grille*, where we landed to examine the source, and its appurtenances, and to taste the waters; walking a short distance under the inner gallery, and at the other end of it, we, in a similar manner, investigated the *Petit Puits*, and next the *Puit Carré*. By the side of this source, Doctor Barthez having asked for a key, invited me to descend into a sort of crypt, in which I could perceive the crevice in the rock, whence the mineral water, with a temperature of 44° Centigrade (111° Fahr.,) surges along; with it a considerable quantity of carbonic acid gas, mixed with vapour, escapes; the lowest stratum of which near the ground is the purest, as is evinced by the immediate extinction of a lighted candle lowered to that level. In an inner chamber of very tiny dimensions, and in its centre, is a raised bason or fountain, over which a metallic funnel is placed for the purpose of receiving the gas mixed with the vapour of the warm water, which, through a tube inserted in the funnel, is conducted to the laboratory, where the preparation of the bicarbonate of soda takes place. At the suggestion of Doctor Willemin, another chamber was excavated by lowering the soil, where a cylinder capable of holding thirty or

forty pints of carbonic acid gas, derived from the former apparatus by means of elastic tubes, serves to supply an inhaling chamber recently established, in which the same physician has performed some interesting experiments, on the employment of carbonic acid inhalation and baths, in various diseases. With these I need not detain my readers, as they were but rude and imperfect experiments, with scanty materials and deficient apparatus, which faith, practice and a better mode of obtaining and collecting, and applying the gas, will render more perfect. Into this mysterious crypt, Doctor Barthez informed me, no one is permitted to descend unless accompanied by a medical attendant.

Before we quitted, the place I ventured, in passing, to make one short observation to my kind cicerone on the subject of the use of carbonic acid gas in the treatment of disease, either as a general bath, or as a local *douche*. "Your learned confrère," said I, "who, I am aware, has written a memoir or two on the subject, speaks of it as if it were something new and before unknown. Undoubtedly, he has acknowledged in general terms, that in Germany the application of the particular gas in question has long been known, and he even refers to an experiment of Scanzoni of Wurtzburg (which by the by is only of recent date). But Dr. Willemin ignores altogether what the author of "the Spas of Germany," under the head of Egra, had said of the use of that same gas in the treatment of disease as long ago as the year 1837, in those volumes which, having been republished simultaneously by two publishers, Baudry and Galignani in Paris, in the same year, must surely have come to the knowledge of Dr. Willemin. Nor do your countrymen make the smallest allusion to the same

writer in his other and more recent work on Kissingen, published in 1846, where, throughout several pages, the subject of the carbonic acid baths of that spa is treated; a subject the same writer had occasion farther to dilate upon in a third publication of 1855, which (par parenthese) has been translated into French *tant bien que mal*, and is to be found at Amyot in the Rue de la Paix! I was asking a short time ago a very eminent geologist how it happened that French writers who have come after him, in treating of the geology of Vichy, have ignored his memoir on that subject, and especially the discovery of the curious dislocation at the *Cliff des Celestins*. His answer was a short one; "My dear Doctor, they never read our papers." And so it seems has been the case with the worthy Dr. Willemin, who has undertaken to introduce baths and inhalation of carbonic acid gas at Vichy, as if nothing of the sort had ever been done, and does not seek first in the *Bibliographie Hydrologique* of England, to ascertain whether the subject had ever been systematically treated before him.

As an author, I have indeed reason to regret this costiveness on the part of French hydrologists to acknowledge the labours of their predecessors and contemporaries in this country. In the whole of the first volume of a new Review, entitled "*Revue d'Hydrologie Medicale*," published last year in France, in which all species of allusions are made to the mineral baths of Germany, and even once or twice to those of this country, not once is there a single reference to be met with to the six or seven different volumes published in England detailing every possible and necessary feature and circumstance connected with all those spas by the

writer of the present lines. Dr. Herpin, of Metz, justly commended by Dr. Willemin for his work on mineral waters, is the only French writer who seems to have taken cognizance of the productions of English authors on the same subject, and done them justice; differing in that respect from a brother writer, Constantine James, who in his compilation, or "*Guide Pratique*," has taken something from everybody, but has acknowledged his debts to nobody or to very few.

These observations I permitted myself to make in the presence of my conductor, who admitted that, in regard to the much larger application of carbonic acid gas, which, from the report of some of my Kissingen patients he had treated at Vichy, he knew I was in the habit of conducting at that spa, he and his contemporary confréres were very imperfectly acquainted. A walk through the whole of the extensive building, under the front gallery of which we then were, changed the course of our conversation, and I was much gratified with all I saw and Dr. Barthez explained to me, connected with this great bathing establishment, and the extent to which mineral bathing is carried. But of this more anon, when we shall come to treat in greater detail of the various mineral sources and mineral baths of the place.

The carriage having been directed to go round by the Rue du Parc, and wait on the Place de Fatiteau, Dr. Barthez invited me to accompany him along the middle gallery of the *Establissement Thermal* into the park, which we traversed through its centre, walking to the Place Rosalie to taste the waters of the source *de l'Hôpital*. "The proximity to our hospital," said he to me, "has given rise to its name. You see that public building, in fact, before you, and I invite you to examine

its interior, in which you will find an extensive arrangement for the administration of baths to the civilian invalids therein admitted. It receives during the year about sixty or seventy patients, old and young, of both sexes, including children, from all parts of France; but it is necessary that they should present certificates of indigence, legalized by the mayor; that notice of their arrival should be sent beforehand, lest they should find no room on their arrival; and, lastly, that they should bring with them a statement of their case from the medical man who attended them, to serve as a guide to the one who is to continue the treatment at Vichy. Formerly the patients used to bathe in the public baths of the great establishment; at present they take their baths in a small establishment of their own at the back of the hospital devoted to public assistance.

"The civil hospital is managed under the direction of seven Sisters of Charity of the Order of St. Vincent de Paul. They prepare in their pharmaceutical laboratory, which, by the bye, is kept in the most perfect state, some celebrated Pastilles de Vichy, the produce of the sale of which serves to increase the resources for the relief of the poor. These Sisters of Charity conduct, also, a gratuitous school for young girls, founded in 1785."

Regaining the carriage, we drove along the margin of the Allier, the water of which was just then very low, to the cliff of the *Celestins*, where I had a draft of the *petillant* and refreshing water of that source. Here, with the help of my kind guide, I was able to examine this highly curious and gigantic mass of arragonitic concretions, which presents an elevation of more than forty feet, and offers an interesting phenomenon, which will be more circumstantially described in the fourth section.

We returned by the *Route de Nismes* to the sources *Lucas* and *Acacias*, where Dr. Barthez made me notice the slight odour those waters have, especially the former, of sulphureted hydrogen. But I took the liberty of pointing out to him how ephemeral was the peculiar odour in question, and that it probably arose from the accidental contact of the mineral water, as it reaches the surface, with that gas, originating from the decomposition of vegetable matter, or even of the glarine or organic matter floating on that surface. "At all events," I added, "none of your analysts have admitted such a gas in their analytical tables; a startling evidence that they do not believe in its real existence in the water."

Stepping across from these sources to a modern building that stretches in front of it, behind a double range of trees, Dr. Barthez introduced me into the establishment of which he is himself the chief, and within which he has, year by year, acquired an amount of experience on the efficacy of the Vichy waters on disease which few of his contemporaries have an equal opportunity of gaining. This assertion we shall find confirmed when I treat of the use of these mineral waters in disease, forming the subject of the eighth section.

As this establishment will furnish, perhaps, the most satisfactory data for settling the important question of the real medicinal virtues of the Vichy waters in certain disorders of the human frame, it is essential that my readers should be told what the establishment consists in, and to what especial objects and purposes it has been devoted.

Its creation dates only from 1847, and is due to the care and solicitude of the War Minister of that time for sick soldiers, such especially as return from the fatigues

and depressing influence of the African clime, and require the aid of the Vichy waters to re-establish their health.

The Minister of Marine, likewise, has the right to direct such naval officers and seamen to this hospital as are likely to derive benefit from the use of the waters in such maladies as they may have contracted in hot and unhealthy climates, or in the French colonies.

A circular of the War Minister, dated February, 1843, limited the admission to thirty officers only, under the rank of captain, inclusive. These officers were lodged at their own expense, and received the baths of the establishment gratuitously.

In the following year, Baron Dubouchet, Military Intendant of the Division, having observed a soldier drinking the water under the garb of an indigent poor, wrote immediately to the War Minister to suggest the necessity of securing to the privates and subalterns of the army a more suitable position at Vichy—one worthy in every respect of men who sacrifice their health for the interests and honour of the country. Upon this representation the superior authorities gave orders that, in future, subalterns as well as privates who shall be sent to Vichy shall enjoy the same privileges that the officers have. In order to carry out this praiseworthy intention, it was necessary to provide for the proper accommodation of the expected patients in the way of house room, &c., and, accordingly, at the end of the season of 1846 a large house called the hotel *Cornil*, was purchased for 140,000 francs, and converted to its present use as an hospital. This building, one of the largest and best situated in Vichy, with the new constructions that have since been added to it, is capable of

admitting ninety officers and sixty subalterns and privates. Each officer is lodged in a private chamber, and should it hereafter become necessary, in lieu of 150 patients it now contains, 250 might be accommodated. As the bathing season lasts 120 days, and each patient is entitled to remain in the hospital forty days, it follows that the total number of patients may be thrice renewed in the course of the season, so as to treat 615 patients. The inconvenience to which these military invalids were hitherto subject of being under the necessity of availing themselves of the baths at the great thermal establishment, has now disappeared, and you see here at present, at the back of the building, a bathing establishment of its own, complete in all its branches.

It is an almost incalculable advantage to a medical man, that of having under his control and surveillance a considerable number of individuals requiring the use of these mineral waters and baths for a variety of diseases, who are accustomed, from professional habits, to do everything methodically and with precision, agreeably to the rules of military discipline, and of being able at the same time to direct the treatment from day to day, watch its effects, and note down its results—to be further confirmed, modified, or nullified, by the official reports from the medical officers of the regiments to which the invalids belong, who, by duty, are required to send such reports to Dr. Barthez. Of such an advantage my talented conductor seems to have availed himself, to the great benefit of the military service and the advancement of medical practice; for he has kept tabulated returns of all the patients he had treated for several years past, in which more accurate information respect-

ing the efficacy of these mineral sources in overcoming disease is collected, than can be expected from any other source; and what is more, the returns cannot be garbled, and may therefore be depended upon as genuine.

The day was far spent when I insisted upon my obliging conductor taking heed of his own professional engagements, and not to trouble himself any longer about me, after setting me down at my own hotel. For as to the rest of the sources, which lay at considerable distances from Vichy proper, I should have blushed to have given him the trouble of escorting me so far to the neglect of his patients. We therefore took a cordial leave of each other for the present, proceeding later in the day by myself, to examine all the sources, and the interior of the Great Establishment, with the view of writing down notes and memorandums for my future guidance, which I had not done at my first visit with Dr. Barthez.

At a subsequent interview with that physician, we entered more particularly into the purely medical question of the therapeutical application of each, or of all the several sources we had examined in the morning, when he unreservedly and candidly informed me of the result of his experience, adding some particulars of his mode of practice and intercourse with his patients—which I remarked to him differed from those adopted at the spas of Germany. This led us to speak of those spas, and especially of Kissingen, when we agreed, by contrasting the analyses of the respective sources of that place and Vichy, that they might successfully be made to aid one another in the treatment of many chronic disorders of both sexes.

III.

TOPOGRAPHY AND HYDROLOGY OF VICHY—ORIGIN OF ITS VARIOUS MINERAL SOURCES.

III.

I cannot err, I hope, in following the course I adopted when writing the "Spas of Germany," and my other works on the mineral waters of Kissingen and of England—and entertain my readers, by the way, with such collateral information as may assist them in more fully developing the main subject of the present publication, and facilitating the comprehension of its intrinsic usefulness. In describing, therefore, the mineral waters of Vichy for the first time to English readers in a medical work, it will not be deemed superfluous or inappropriate to take, first of all, a general survey of the locality, and even the geology of the place and surrounding district—and this will naturally lead to the consideration of the origin of its mineral springs. The time I could devote to the study of these two topics was too brief for me to attempt more than simply dotting down on the spot the cursory observations I could make, and the more salient objects that presented themselves in my brief excursion. But I

find ready at hand such a rich source of valuable and first-rate information *ad hoc* in Sir Roderick Murchison's Memoir on the Geology of Vichy in the journal of the Geological Society for 1851—also in the writings of Berthiér and Puvis *sur les eaux de Vichy*, and of two or three other authors on the same subject, especially Bouquet (1855), that I need not fear to leave my subject incomplete.

At the *Depôt de la Guerre* in Paris there exists a topographic and physical map of the Department of the Allier, in which Vichy is situated—that at once exhibits the hydro-mineralogical condition of that singular district. We behold in it, in a bason of less than twenty-five miles by fourteen, not fewer than ten dissimilar systems of rocks and deposits, including basalt, porphyry, porphyroid granite, greenstone, modern alluvium, lacustrine soil, and paleozoic deposits. Vichy is on the right bank of the Allier, which runs from south to north, descending through the Puy de Dôme from the high mountain range of La Lozère, like the Loire, parallel to which it runs as far as Nevers, where it mingles its water with that river, and travelling onwards with it, throws itself at last into the Bay of Biscay. The Allier is throughout navigable, and though liable to inundations—as was the case only two years ago, when Vichy was severely handled by its waters—it is not so subject to that calamity as its sister river, the Loire.

The whole geological *entourage* of the country in which Vichy is located consists, in fact, of granitic and sienitic rocks and serpentine forming the subsoil, on which repose carboniferous limestone, travertine and tufa constituting the real strata of a lacustrine character. Until Sir Roderic Murchison visited Vichy, in 1850, for the benefit

of his health, and devoted his leisure hours to a geological scrutiny of its district, geologists had not been aware of the singular phenomenon which these lacustrine or superficial strata generally, horizontally, or, at most, slightly undulating, presented at the place, where the source of the *Celestins*, one of the most renowned of the Vichy springs, is situated. Here a great *fault* was detected in those horizontal strata by that indefatigable English geologist, who describes it in these words:—"I was greatly surprised to find exposed in a small foot-way recently cut down on the side of the cliff, a clear junction of the horizontal strata on which old Vichy is built, with absolutely vertical strata of the same material, on the top and edges of which the Celestine monks had built their convent. Here, therefore, was a very decisive *fault*."

To such of my readers as are strangers to the vocabulary of geologists, I may state that the last-mentioned term means a sudden disruption of a horizontal line of rock, and a consequent change in the level of the two disrupted portions, which change may be of any degree, and, in the case of the Cliff of the *Celestins*, is so considerable, as to place one portion at right angles with the other. The water of the *Celestins* rises in very minute quantities at ten feet below the bottom of the outermost of the vertical strata or layers which form a cliff, as I have already called it, from 40 to 50 feet high above the level of the well-house, between which and the Allier lies a bank of alluvial deposit, on which rests the quay, that seems to protect the source from the inroads of the river.

This identical Cliff of the *Celestins* is due to the deposit of the mineral water, as Messrs. Berthiér and Puvis maintain. No one can doubt who has seen, even now, the steady manner in which slender *filets* of the mineral

water, issuing from more than one crevice in the cliff, without being collected, add continuously around their orifices heaps of the same material of which the cliff is composed, and which resemble aragonite. Indeed, it is by such a process that even the most important issues of the *Celestins* had, at one time, become nigh obliterated (as more than one of the minor crevices, I myself observed, is now actually in process of doing), and required to be enlarged by boring or excavating.

Mons. Bouquet who has described the geological *habitat* of the Vichy springs, subsequently to Sir Roderick's researches, has noticed especially the fault at the *Celestins* without alluding to the previous mention of that fact (formerly unknown) by the English geologist, Mons. Bouquet states also that a similar range of vertical strata leaning against a horizontal one, is to be seen in one of the streets which lead from the wharf to the old town. The manner in which these horizontal strata have become vertical at the *Celestins*, Mons. Bouquet thus explains :—"La roche des *Celestins*, originairement intercalée comme toutes les autres dans un terrain meuble, a sans doute été deschaussée par l'action erosive des eaux pendant le creusement de la vallée et n'etant plus soutenue elle a dû se rompre en basculant."

But we will return to Vichy itself, properly so called, and judge of its fitness as a Spa of the first class, a distinction to which it aspires, and which public favour seems disposed to accord to it. In the good old times of Madame de Sevigné, when the grand Monarque went to meet Madame de Montespan on the very river which washed the foot of the old clock tower of Vichy—that *spirituelle* letterwriter lodged contiguously to that very tower which forms the centre of the old town, and over-

hangs the Allier. Clustered on the border of that river, on a great bend, the old Bourg occupies the south-west and west portion of that jutting, standing at an elevation of several feet. To that extent and no more, is old Vichy still limited. But around it on the south, the east, and the north, a new town has assembled since; new streets have been opened wide, and at regular angles, in contra distinction to the crooked lanes of the old Bourg. Public edifices have risen, which would have surprised Madame de Sevigné much more than the soidisant *bergers* and *bergères*, dancing the *bourreès* of the country before her.

The springs, not fewer than seven in number, as alleged, and all belonging to the crown, but let on lease of thirty years to a company, rise at lower levels than the rocks on which old Vichy is built. No mineral water has ever been detected in the higher level. They surge to the north and south, and below the old Bourg, and, among the latter, the one which has acquired most vogue in modern times, is that which issues at the base of a rock on which appear the ruins of the monastery of the *Celestins* already mentioned, and now marked by a small farm house.

I shall allude more pointedly to the topographical situation of these various sources in the fourth or next section, where it will be my object to refer again to each of them more particularly. In this place I purposely limit my observations to their origin. This most interesting theme has been treated geologically, physically, and chemically, with great care and success, by Mons. Bouquet, an officer attached to the *Ecole des Mines* in Paris, whom the public authorities despatched to Vichy in 1853 to examine the several sources, analyse their

respective waters, estimate the quantity of the free gases evolved, and with the assistance and advice of Mons. de Senarmont, an eminent practical geologist, elucidate as far as possible the telluric circumstances and phenomena appertaining to these waters. I cannot serve my readers better than by giving Mons. Bouquet's own opinions and conjectures regarding the origin of these waters in the present instance, reserving, for a future section, the result of his analytical experiments, his views of the geological structure of the Vichy district having been already brought to the notice of my reader.

"The mineral sources," observes Mons. Bouquet, whose writings are three years subsequent to those of the English geologist named in the early part of the present section; "the mineral sources which pierce the lacustrine strata, as well as all the superficial migratory deposits, have probably one common origin—the identity of their composition leaves no doubt on the subject. These subterranean waters, and the carbonic acid by which they are accompanied, appears to flow in all directions, and in some sort to impregnate the entire mass of the stratified deposits. We see the surging naturally on all sides—everywhere the sound or gauge meets with them, and it is not unusual to find in the neighbourhood of Vichy small ponds of stagnant water from which bubbles of gas are seen slowly to emerge, and which resist, more or less, congelation, a sign pretty nearly certain of a superficial escape of subterranean emanations.

"Every circumstance induces the belief that the sources of Vichy form the centre of such emanations. Their volume, temperature, and assemblage within a tolerably limited perimeter—not less than the mass of

deposits formed by them—contribute to confirm that belief. In no other locality is their passage a more direct one; and if the artesian bore has everywhere brought to the surface waters comparatively cold—it is infinitely probable that that fact is due to the small depth to which the boring has extended, the operation having always been stopped on the first appearance of the ascending stream.

"On the other hand, no doubt exists that all these thermal waters have their starting point below the lacustrine deposit, and are really of *geologic formation*, like the crystallized rocks to which they appear to be subordinate. They scarcely take up any sensible element from the argillaceous beds or superior calcareous rocks, and they form, on the contrary, in them a concrete deposit—thus insulating themselves by a canal of solid material borrowed from their own identical substance. It is also not unworthy of remark, that after having, very probably, traversed the porphyries, they bring to light fifteen or twenty times more soda than potash—whilst in the composition of those crystallized rocks, the weight of the last-named basis is equal at least to that of the soda.

"The thermal waters of Vichy, in traversing the moveable beds of the superficial soil, have there deposited, and continue to deposit daily, calcareous concretions, and especially fibrous aragonite. They incrustate the pipes through which they are made to flow, as well as the basons in which they are received; and the operations of *captage* (disembarassment or clearing) at various epochs have demonstrated how rapidly these sources build up in this manner chimneys to their own tubes of ascension, or banks, solid and regular, around their points of issue,

where they are suffered to flow in horizontal *nappes* (sheets)."

Not long since a deposit of travertine aragonite was discovered around the *Puits Carré*, in no way differing from that at the *Celestins*, to which I have already alluded. A similar deposit still exists, and forms a step at the baths of the Civil Hospital; while during some recent excavations around certain sources, those of *Lucas* and *Grande Grille* exhibited calcareous deposits—amorphous and bituminous as regards the former, and crystallized as regards the latter—each containing a notable proportion of argillaceous sand, evidently borrowed from the surrounding soil.

Perhaps few mineral watering-places have formed, like Vichy, the subject of physico-geological inquiries, conducted under the authority of government, and, therefore, official, and likely to yield accurate results. As late as the year 1852, one of the Inspectors-General of Mines, Mons. Dufrénoy. reported to the Minister of Commerce, that in every part where the soil had been sounded within the space of ten kilométres around Vichy, alcaline-ageous sources, analogous to the old ones, have been found. There must, therefore, exist in this basin a considerable quantity of mineral water. Accurate soundings have shown that all these various sources issue from the alluvium which overlays the Valley of the Allier. They stop short at a reddish argillaceous layer, and seem to spread everywhere at the same level, nearly dividing the alluvium into two parts. The sound, after having gone through the layer just named, has invariably brought up sands analogous to those of the upper stratum. We may, thence, infer that the *alluvium* placed beneath the argillaceous layer forms something like a sponge, which re-

ceives the mineral water through the ascending channel, and transmits it to the surface, either by means of natural or spontaneous artesian wells, as is the case with the source called *Puits Carré*, or by the agency of tubular openings, perforated through its mass artificially.

Now, it may seem to some of my readers that I have probably extended my notice of the geology of the mineral waters of Vichy beyond the requirements of a professedly medical work, and that I have dwelled too long on these solid concretions. Not so, however, when we consider that in the chemical composition of these very concretions, we shall see, in a future section, reasons for serious reflection respecting the internal use of waters which are capable of forming solid deposits, among the constituents of which analytical chemistry has detected arsenic and phosphoric acid, besides iron, manganese, strontian, and magnesia.

IV.

NUMBER, NATURE, COMPOSITION, GENERAL AND PHYSICAL CHARACTER, AND TEMPERATURE OF THE WATERS OF VICHY.

IV.

1. *Grande Grille.* 2. *Puits Chomel.* 3. *Puits Carré.* 4. *Source de l'Hôpital.* 5. *Sources Lucas and Acacia.* 6. *Celestins.* 7. *Puits Lardy.*

Mineral hydrographers, or writers on mineral waters generally, unlike those who confine their attention to the mineral springs especially of one locality, do not acknowledge the existence of several sources in the same place, where the composition of their water is identical, although it may be issuing from different and distant apertures. I find myself precisely in that predicament as regards the sources of Vichy, which are reckoned to be many by the authors whom I have consulted, as well by the resident physicians giving us the idea that at Vichy are to be found several mineral waters; whereas I have met with mineral waters of one kind only, differing merely in degrees of temperature, and issuing in distinct parts of the district in which Vichy is located. This is precisely what is obtained at other places, as at Carlsbad, for example, where, besides the far-famed *Sprudel*, there are six other issues of mineral water, the composition of which has been found to be identical* by Berzelius, Klaproth, and

* See "Spas of Germany," 2nd. Edit., page 225.

David Becher. The inference that the seven sources spring from one and the same heated reservoir of water was, in a singular manner, proved to be a correct one, by what happened to the *Sprudel* fifty years ago. On the 2d of September of that year, the Sprudel suddenly ceased its action, and the jets of boiling water sprang up in another place some thirty or forty feet distant from it.* For ten years did this phenomenon continue, and the citizens hastened to erect around it a small and elegant temple, with a reservoir, on which occasion the new source received the name of "Fountain of Health." At the expiration of ten years, however, the old Sprudel resumed its functions with increased vigour and activity, leaving to the new source but a feeble sprinkling of the honour so suddenly acquired and so suddenly lost, in the form of a thread-like stream of hot water, which the visitors deem it a duty still to taste, in memory of its past glory.

And so no doubt it is with Vichy. Let us see. I take the most comprehensive work on the subject, whose author I have already mentioned, with high commendation for its laborious inquiries and experiments relative to Vichy les bains. Mons. Bouquet, one of the most expert practical chemists of Paris, in his *Histoire Chimique des eaux thermales* de Vichy, reckons and names not fewer than sixteen sources as belonging to the Vichy district. Doctor Durand-Fardel, a resident physician at *Hauterive*, whose charming letters on Vichy give one a high idea of the author's intellectual merits, adopts thirteen only; whilst my kind conductor Doctor Barthez, who has also written a most able work on this spa, notices especially ten sources only; and that number I

* See "Spas of Germany," 2nd. Edit. page 224.

shall adopt as the one which, with his assistance principally, and afterwards by myself and at greater leisure, I was able to personally examine.

Let the reader, in the first place, imagine a wide space, the centre of which is occupied by a vast public building, called the *Etablissement Thermal* of considerable architectural pretensions. The two façades of this building run N. & S., the latter immediately overlooking a long parallelogram, about 340 metres, or 1,025 feet long, which tapers towards the north, and is nearly double the width at the south end. It is planted with ranges of lofty lime trees, forming latéral alleys, with a wide avenue in the centre, and it constitutes what is here called "The Park." The several sources of warm mineral water are to be met with in and about this locality.

Under the north gallery of the great building just alluded to, and in the left angle, is the *Grand Grille*, already mentioned, the most frequented of the sources by the water-drinkers. At first sight it reminded me of the mighty Lion of Carlsbad, the Sprudel, but no farther than as a mimic resembles its prototype. An octagon stone basin, reaching to the height of my waist, is filled with the mineral water, which springs through a small central ascension tube, in jets somewhat intermittent, and yielding, according to Mons. Bouquet, 70,000 litres, or not quite fifteen hundred gallons of water, in an hour; a mere bagatelle as compared to the outpouring of the *Sprudel* at Carlsbad, or the wave-like supplies of that other lion of the mineral springs, the *Soolen*, of Kissingen. In fact, after having been long accustomed to witness, day after day, at the principal spas of Germany, the even, never-ceasing, and prodigious flow of mineralized water from openings or wells of several feet in circumference,

one experiences almost a feeling of contempt at these *filets d'eau*, drawn up by aspiration from below, through tubes which have been sunk by artesian boring, or jetting out of themselves in equally slender streams. To the former class some of the Vichy sources belong—the rest are of the second class. It is as I found it at Ems, at Hombourg, and elsewhere—far different from what obtains at Wisbaden, Schwalback, Baden-Baden, Cronstadt, and more especially as regards the Ragozi and Maxbrunnen.

Yet, with all, a plentiful supply does the *Grande Grille* yield to the numerous visitors who crowd around it each morning, and where each, in turn, gets his or her own supply of the water from a somewhat aged naiad, who, holding the glass in her left hand, fills it by means of a cup fastened to the end of a long stick, which she plunges into the jet of mineral water. This instrument she wields with adroit frequency, in her right hand, and then tenders the brim-full beaker to the applicant, who either sips it with premeditated resignation, without making a face, or swallows it quickly with only a shudder and a grin. Methinks this naiad or nymph might as well try to discover some preferable mode of cleaning or washing the beakers, after each injection of the mineral water by the patient, to the one she has adopted—reminding me of the operation of a scullerymaid. The good old lady, standing on a step in front of a species of waste-sink, rejects into it the water left in each glass, and then washes and rinses the glass with her own hands! This operation, I afterwards found, is carried on at all the springs. At some of the sources I observed that invalids who are more particular than others, keep their own glass, which, when done with, or after each dose, they

hang up along the wall to a nail having a particular number, just as you hang the keys of your apartment at an hotel, to a number in the porter's lodge.

I did not see any reason for a single grimace in drinking of the *Grand Grille*, or, indeed, of any of the rest of the warm sources. There is in all of them a first impression produced, like that from the faint animal *halitus* of a person in health with an empty stomach. The taste of the water is pleasant rather than not; smooth to the mouth, the water slips like soap down the throat. No one can mistake the strongly-marked alkaline *gout* of the water after its complete injection into the stomach; for it leaves behind on the tongue the impression of your having chewed a certain quantity of carbonate of soda. *Au premier abord*, this is not perceivable, for the quantity of free carbonic acid gas, which escapes along with the water, masks, by its agreeable acidity and effervescence, the alkaline taste.

Walking along the gallery westwardly for about thirty yards, and passing the central inner grille that leads into the interior of the *Etablissement*, we meet with the second source called *Puits Chomel*, or *Petit Puits*. This is properly speaking a mere pump, through which the mineral water is drawn from the old level of the spring below its present level of nine feet six inches beneath the soil. Here a positive proof exists, and is admitted, that this source and the third source of Vichy called the *Puits Carré*, situated to within eight or nine feet of each other, are one and the same source, the water of which issues at different apertures. Certain operations which the Engineer of the Baths, M. François, deemed it necessary to perform in order to enlarge the flow of water of the last-named source, affected the supply of the *Puits*

Chomel, and that gentleman was obliged to admit that both sources had one common origin. Nor is the evidence of a communication existing between the *Grande Grille* and the *Puits Carré* less striking; for, according to Bouquet, when, in consequence of some operations done to the former, its temperature rose eight degrees, that of the latter source decreased, and the same as regards the escape of gas, which diminished in quantity in the *Puits Carré* while its proportion increased in the *Grande Grille*.

This *Puits Carré*—formerly named *Fontaine des Capucins**—is situated about the centre of the north gallery of the *Etablissement*, and like the other two sources under the same portico. Whether we consider the abundance of its supply, or the high temperature of its water, Bouquet looks upon it as incontestably the most important of the sources of Vichy. Considerable works have been carried on in and about it by which its point of issue has been permanently fixed at three yards and a quarter above the level of the gallery. This arrangement has sensibly augmented the supply of water, which amounts, at present, to 50,000 gallons in twenty-four hours. The water of this source, until very lately, was exclusively employed for the service of the Bathing Establishment; at present a mechanical arrangement has been contrived to enable bibbers to partake equally of its waters.

My readers will not have forgotten my mysterious descent into a species of hot subterranean stove like a crypt, in company with Dr. Barthez, my kind conductor. It is there that the mineral water of the last-mentioned sources really surges, and with its high temperature filling the place with steam—while the carbonic acid gas,

* From its contiguity to a Capuchin monastery.

being collected by an appropriate arrangement and gutta percha tubes, offers new resources to the medical men through the process of inhalation of both steam and gas, the latter diluted with the former. Dr. Barthez flattered himself with the possibility of collecting a quantity of the gas, sufficient to employ it for baths, in the guise of those which, he said, I had described, and so highly recommended in my account of Kissingen.

Before we quit this locality let us inquire into some of the physical and other characters of the water in these three sources, It is limpid—it disengages in all of them free carbonic acid gas, but in different proportions. The largest quantity, relatively to the volume of water, is observed at La Grande Grille, at which, in ordinary times, according to Berthier and Puvis, the gas amounts to from twenty-eight to thirty cubic metres ; being a volume almost double that of the water. Some persons when approaching a glass of the water of the Puits Chomel to their lips, fancy they can detect the semblance of a smell of sulphureted hydrogen in it. I cannot say I perceived it ; but I can comprehend that a spontaneous decomposition of the green vegeto-animal substance which is developed on the surface under the direct influence of the solar rays, might produce a trace of the gas in question, which is, however, and under any circumstance, perfectly evanescent. Finally, these waters restore the blue color to the lithmus paper that has been reddened by an acid.

Reserving the complete chemical analysis of these three waters for the next section, in which the chemical composition of all the several sources will be tabulated, I may here observe that the alkaline portion of the three sources just described, contain the salts of bicarbonate, muriate, and sulphate of soda.

Before we come to the interesting question of the temperature of the Vichy waters, which varies in all the sources, and is the only apparent puzzle in regard to their identity of origin, I shall continue my description of the remaining sources, and first in order I take that of the *l'Hópital.*

Following the principal or central avenue of the Park to its termination, you emerge into a place called *Place Rosalie;* and here, nearly in its centre, in a round iron pavilion, raised on steps, a reservoir is found always full of the mineral water, guarded by an iron grille, to prevent the water being tampered with or soiled; no person being permitted to *puiser* for himself, but receiving the necessary supply from the female attendant as usual. These are not, as at Carlsbad and Hombourg, smart young lasses, gaily and uniformly dressed, dispensing, with the limpid streams, their ready smiles and oeillades, but plain, soberly clad, ordinary women, who, when not in the actual performance of dispensing the water, sit themselves down on a straw chair beside the source of which they are the guardians, plying their fingers at knitting or sewing, until beckoned to, as was the case during my own perturbations, to supply a thirsty or invalid applicant with a glassful of their guarded beverage —an act in which I cannot say that they display *les graces d'une Parisienne.*

The vicinity of the Civil Hospital, which building with its gateway, and open grille for its back ground—has given to this source its present denomination; while the name of the place was given to it in honor of an illustrious visitor, the Duchesse de Mouchy, who, finding the source in 1819 surrounded by stagnant water, and almost inaccessible, caused several important improvements, in-

cluding a complete drainage of the ground, to be done at her expense.

This source is the only one to be found in Old Vichy, where it was known formerly as the *Gros-Boulet*. As it emerges spontaneously through the crevices of the aragonitic concretion, the water is received in a square well six feet deep, cut in the identical rock, and thence rises into the circular stone basin under the above-mentioned pavilion, whence, by subterraneous pipes, the mineral water is conveyed to the bathing and douche cabinets belonging to the Hospital Establishment.

The supply from this source varies; sometimes yielding daily 10,300, sometimes 17,325, and, again, perhaps, as much as 18,400 gallons; the average, according to M. François, being 13,100 gallons in 24 hours. I detected no difference, either in the taste, or the aspect and physical character of the water of this source.

We will now retrace our steps from Old to New Vichy, as it is called, returning by the *Rue de l'Hôpital* and the broad carriage-way called Route de Nismes, eastward of the Park, until we reach the Rue Lucas, near the angle of which two other springs are found, called, respectively, *Source Lucas* and *Source des Acacias;* but though considered in former times as two springs, that notion has since made room for a much more correct conception of their nature, inasmuch as they were ascertained to constitute one spring only, which is denominated indifferently by the first of the two names just cited, in honour of a benefactor of Vichy, Doctor Lucas, or by the second, due to the vicinity of some acacia trees. So convinced was M. François, the engineer, of their identity of origin, that he did not scruple to bring them into direct communication, thus forming one and the same

source ; the true position of which is facing the Military Hospital—the very establishment at the head of which my kind conductor is placed.

The water of this joint source is said to give out sulphureted hydrogen gas ; and, indeed, when the Source of the Acacia existed as a separate spring, it obtained the nickname of *Source des Galleux*, from the circumstance that patients suffering from cutaneous disorders, especially that for which sulphur is a specific, drank of this source, and employed it to bathe in, because of its smell of that mineral in combination with hydrogen. But here, again, as in the case of the Puits Chomel, the presence of such a compound gas is quite ephemeral, and, probably, due to the same cause to which I ascribed it in the latter source ; for on Mons. Bussy analysing, by order of the Minister of Commerce, in 1850, some of the Lucas and Acacias water sent to Paris, carefully bottled, that gentleman could not detect the smallest trace of the gas in question.

The supply in twenty-four hours amounts to 80,250 gallons of water, the whole of which is projected into the *Etablissement Thermal*, for the use of the baths. In connection with my conviction that all these various sources have a common origin, I may add another fact, *valeat quantum*, that (as Mons. Bouquet has remarked) the *Lucas* and *Acacias* sources, placed a hundred and fifty yards from that of the *Grande Grille*, are situated exactly on a prolongation of the same straight line which passes through the three sources, under the north gallery of the *Etablissement Thermal*. When we come to consider the temperature of these several sources, it will be seen what inference I deduce from such facts in support of my notion of the identity of origin in all the sources.

To complete our survey of the sources of mineral water of Vichy proper, the writer will accompany me back from the last-named wells, along the Route de Nismes to a large open space enclosed by trees on three sides, and the fourth facing the river, above the level of which it stands between forty and fifty feet. This is the *Clos des Celestins*, at the south-east angle of which are the old buildings of the Convent of Celestin monks, already alluded to. Below this level, even with the quay of the Allier, is the source of mineral water, called *Des Celestins*, before which passes a wide drive or road, planted with a row of trees on each side, forming the termination of a newly-made carriage-drive around the south-western end of Old Vichy, extending from the bridge to the esplanade in front of the source, called Place des Celestins. To the peculiarities, physical and geological, of these localities I have expressly alluded, in the preceding section. In this place all that remains for me to do is to describe the spring, the character and quantity water.

This surges direct from the aragonitic rock mentioned in the third section, and through more than one crevice or fissure. The streams are collectively received in a square excavation cut in the same rock, from whence a surplus is sent up to the drinking-place by means of a pump. The water is limpid, almost effervescent, exceedingly agreeable to the taste, and refreshing, but still smacking very decidedly of the alkaline flavour belonging to all the members of the family of the Vichy waters, whether they be warm, or cold, like the water at present engaging our attention. The distance of this source from the more fashionable or habitable part of New Vichy is an inconvenience; but once arrived there, invalids find comfort-

able rest and shelter from either sun or rain, in a pavilion enjoying a view of the Allier and its smiling shores. A billiard-table has been set up to wile away the time one has to wait while drinking the apportioned quantity of water.

The supply from this source is but scanty, compared to that of the other sources already described. M. François gives 207 gallons as the maximum supply he found in twenty-four hours. Of course, this comparatively small quantity of a water so much sought after and recommended, limits its use to drinking and exportation: no baths can be given with it. The Celestins water is charged with more carbonic acid gas and saline matter than any other of the Vichy waters; its popularity attracts patient and amateur drinkers from all parts of France; and large, very large, is the amount of bottles of this water that are despatched to every part of Europe, and even to the colonies. The sale of it, at the establishment in Henrietta-street, in our metropolis, is already assuming a very considerable figure, which, I have no doubt, will, at no distant period, be double or triple. I find it stated in Dr. Barthez' valuable work, that this water of the Celestins is *la plus chargée de toutes en acide carbonique et en substances salines.* This must be an error, if we accept as accurate the table of analyses I have borrowed from the admirable investigation of Bouquet in my next section; for whereas the said source is marked therein as having 1·049 free carbonic acid in a litre, and a total of 8·244 solid ingredients and gas together, we find, under the head of Hauterive, 2·133 for the quantity of free gas, and the cypher 8·956 for the total of gas and solid substance in each litre.

In the *Clos des Celestins* already mentioned, and at its

eastern angle, a landed proprietor named Lardy sank an artesian well to the depth of 450 feet, and succeeded in procuring a decidedly mineralised alkaline water, said to contain a definite proportion of protoxide of iron, and an inappreciable quantity of sulphureted hydrogen, a gas which is said to be more strongly developed in times of thunderstorms. In reference to this latter statement, I gather from the remarks of several French writers on the Vichy waters, that they put great faith in meteorological influences on these waters. Dr. Barthez is one of the believers who declares that on the approach of a thunderstorm, whilst the air continues in a violently agitated state, the waters are "*plus lourdes, plus pesantes, et plus difficiles à digérer;*" and he quotes Baron Lucas, who states that, "during stormy weather, the waters of Vichy must need be drank with caution, for they are of a laborious digestion; elles causent un ballonnement du ventre incommode et tellement apparent, qu'on le regarde comme précurseur d'un changement qui doit s'operer dans l'atmosphère." Rather a handy though inconvenient weather instrument this, especially if accompanied by a mimicking imitation of the rumbling of a thunderstorm, which generally distinguishes *a ballonnement du ventre.*

Dr. Barthez, on the strength of some recent experiments by a Mons. Doyère, undertakes to give the *rationale* of such alleged facts; but into his explanations I shall not enter in this place, being of too technical a nature to be either pleasing or intelligible to popular readers. The gist of his explanation, however, would seem to be this, that inasmuch as during an *orâge*, atmospheric pressure being weaker (as the barometer shews), a larger quantity of oxygenised air and carbonic acid escapes from their surface, leaving behind the water de-

prived of that which imparts elasticity and lightness to it, and consequently rendering it heavier and less digestible.

Although the proportion of iron present in the Lardy Well is feeble, its peculiar taste may be discerned at once when drinking the water. Indeed, the oxide may be easily seen deposited abundantly in the lava basin into which the water is received out of the tube of ascension, which supplies in twenty-four hours a continually decreasing quantity, at present reduced to 1750 gallons, having a temperature of 23°.6 Centigrade.

The mention of the latter fact reminds me that I have to grapple with the difficult phenomenon of the temperature of the several sources of Vichy *intra et extramuros*, and its relationship to the question of the common origin of these waters. We will proceed to these considerations before concluding the present section.

Volcanic, or if a different adjective be preferred, central *heat* constitutes, according to the theory fully developed in previous writings of mine on mineral hydrology, the most active element in the Vichy water. The next is soda, or rather the very large quantity of that salt present in the water, as we shall see in the next section. But inasmuch as this second element, which gives to the Vichy water its character, is present in all the sources in equal quantities (as my old master Mons. Berthier assures us in his memoir already cited), whereas the former element, *heat*, varies in its proportions in each of the sources, it is manifest that we must look to it for a guide in the estimation of the physiological influences of each source on the animal economy. It did not escape the sagacity of Dr. Barthez, that in endeavouring to account for the diversity of physiological action in diverse sources with identical composition of water, we

must take into consideration the difference of temperature, from which, he says, "*découlent une foule de considerations qu'il est impossibile de nier.*" But he does not attach to the heat itself any modifying power in the virtue of the particular source having a higher temperature, except in as far as the higher temperature indicates the greater depth of the source from which the water has to come. According as the *trajet* or ascent is long or short, the water comes in contact with a greater or lesser number of fossil points, and acquires more or less energetic dissolving properties. If that be the only effect of the greater heat present, the warmest sources ought to exhibit a larger proportion of soluble substances; but such is not the case.

A source mineralised by the presence of 3·597 parts of solid elements in a pint of water, of which not fewer than 2·518 are bicarbonate of soda (*Celestins*) will not produce the physical excitement on the human body which another source (*L'Hópital*) is known to give rise to, when the pint is drank in two or three portions in succession; and yet the solid elements are as near as possible the same, 3.577, and the proportion of bicarbonate of soda to them likewise the same, 2.515. To what, then, must we attribute the difference which all who have drank of the two waters will admit exists between the physiological effect of the one and that of the other? Why evidently to the difference in their temperature—the difference in the uantity of volcanic or central heat they are endowed with. For while in the *Celestins* it is only 16° Centigrade (61° Fahr.), according to Dr. Barthez, in the water of *l'Hópital*, it is nearly double—namely, 31° C. (87.8° Fahr.)

I have mentioned the temperature of two of the

sources described in this section. I will now add that of the remaining sources, as observed by Dr. Barthez in 1857, namely, *Puits Carré* 45° C. (113° Fahr.), *Grande Grille* 42° C. (107·6° Fahr.), Puits Chomel 41° C. (105·8° Fahr.), Lucas 30° C. (86° Fahr.), Puits Lardy 23° C. (73·4° Fahr.)

Now here we have presented to us a curious physical proposition. Seven sources of mineral water are found within a periphery of less than 176,000 cubic yards, issuing all at nearly the same level, and from no great depth, and certainly from a system of deposit rocks as nearly alike as possible, and yet the telluric heat they bring to the surface varies in each of them. What say the geologists to these facts? Sir Roderick Murchison says, that whatever may be the subterranean source of these waters; whether derived from comparatively moderate depth or otherwise, he has no doubt that the lower or higher temperature is dependant on the aperture beneath each source being less or more in connection with a great internal source of heat. Thence he infers that beneath the *Celestins* the crack does not open downwards to a depth sufficient to produce a change of temperature, or if even such opening existed, it was probably filled up along a *fault* beneath the water of the *L'Hôpital*. On the contrary, there must be an aperture adequate to allow a considerable escape of heat; whilst beneath the *Etablissement Thermal*, or farther S.S.W., there is a still deeper and open rent, by which additional gas escapes, and heats the water that has access to it up to the maximum temperature of Vichy, viz. 45 degrees Centigrade. And in another place the same geologist goes on to observe that, "If I am asked how is it that along the same line of fissure the water of the *Celestins*, so copiously charged

with carbonate of soda and carbonic acid, should be cold, and that the other springs containing the same substances are hot? and why the respective temperatures of the warm springs should so vary?—the answer must be hypothetical."

Sir Roderick, albeit he leaves the questions he has himself propounded unanswered, does, nevertheless, enunciate two very distinct principles—one which refers to the depth whence the water surges; the other, which attributes to the contact of the water with more or less carbonic acid gas, while emerging from that depth, the faculty of raising its temperature. The former of these principles is upheld by experience; the latter, on the contrary, is nearly negatived by it; for in the case of that wonderful phenomenon, the great artesian well at Kissingen, where, along with every 100 cubic feet of the saline water, 110 cubic feet of carbonic acid gas escapes at the same time, rising in fact simultaneously—the temperature of the water on emerging is found to have only the degrees of heat which the themometer, sunk to the lowest depth of the bore, marks as the standing temperature of the waters at rest; nay, in the very example of the *Celestins*, cited by Sir Roderick, we have the largest amount of gas with the smallest amount of heat; and as regards the other principle, that the depth of the cracks or apertures from whence the Vichy sources emerge, regulates, probably, their respective temperature, it has been found, on the contrary, that, on deepening one or two of the sources, the *Puits Carré* for instance, a loss of temperature has ensued, according to Messrs. Berthier and Puvis' testimony.

I am inclined to the opinion of those able chemists and geologists who explain the variation in the temperature of

different sources of water found in the same locality, and the composition of which is strictly alike, to the size of the volume of water issuing from the earth; and that, therefore, that temperature must be minimum which belongs to the minimum stream of water—such as indeed is the case at the *Celestins*, where only the slenderest *filets d'eau* are seen to issue.

Perhaps an experiment has been made—if not, it should be—to determine the validity of Berthier's notion, by filling a glazed earthern ware cylinder with water kept at the boiling point, to represent the great source of heat, and suffering the water to escape through spouts of different diameters over equally graduated thermometers; when it may be found that the stream from a spout two inches in diameter, from one of one inch, from a third of half an inch, a fourth of a quarter of an inch, and lastly, from one of a tenth of an inch will affect the instruments differently.

The topographical observations I was able to make during my short sejour in Vichy, induces me to think that the solution of the difficulty will be found in adopting the belief (as to which every known local circumstance tends to render it plausible) that both the *foyer* of the telluric heat and the laboratory of the mineral water (I call it only *one*) of Vichy lie under the great thermal establishment (the spot on which the Romans had a *piscina maxima*) and that the water, after surging to the level it there attains—owing to an inclination or dip of the strata eastwards—flows in that direction, losing heat by the way, but retaining the same mineral ingredients. Thus in New Vichy we find in the western angle of the gallery of the Etablissement :—

The *Puits Carré* with 44·70 Cent.; and following an almost straight line eastwards come,—

Puits Chomel	44·00 Cent.
Grande Grille	33·66 „
Lucas	29·20 „
Cusset	15·00 „

And the same with regard to the Old Vichy sources:—

L'Hôpital	31·00 Cent.
Celestins	16·00 „

I entertain a conviction that were artesian wells to be sunk on any two points eastward between these two places, we should find mineral water, like all the rest of the mineralised water of Vichy, with two degrees of temperature intermediate between that of the *Hôpital* and the *Celestins*. The observation of M. Dufrenoy in his official report on Vichy to the Minister of Commerce, quoted in the preceding section, authorizes me in forming this conjecture. From all of which I conclude, that the permanent chemical nature of the Vichy sources and the variation in their temperature demonstrate their singleness of origin—in other words that there are not many, but there is only ONE mineral water in Vichy.

V.

NEIGHBOURING SPRINGS, OR SOURCES FOUND AT SOME SENSIBLE DISTANCE FROM VICHY.

V.

1. *Source des Dames.* 2. *Sources de Vaisse.* 3. *Hauterive.*

The different writers on the mineral springs of Vichy which I have consulted, confound under that general title, sources which, topographically speaking, have no connexion with that place. I have, therefore, omitted them in my enumeration, detailed in the preceding section. But as some of them are much resorted to by patients sojourning in Vichy, and their peculiar waters exported in considerable quantities, I deem it necessary to devote the present section to their consideration. My manner of treating the subject in hand would be justly deemed incomplete were I to adopt a different course.

Let us begin with one to which attaches some slight historical interest, inasmuch as its very name "*Source des Mesdames*," reminds the natives of the visit to and sejour in Vichy, in 1785, of two Princesses, members of that ill-starred Royal Family which was in less than ten years after to become extinct—Mesdames Adelaide and Victoire de France. The spring is an artesian one, and

like most of that class, intermittent. It is situated on the banks of a tributary stream to the Allier, called the *Sichon*, distant about an hour's walk from Vichy, along a lengthened avenue of poplar trees, planted by order of the two princesses before mentioned, to afford a shaded walk to the invalids who had to walk to the springs.

The water, which has a decided chalybeate taste, and a temperature barely the half of the average temperature of the proper Vichy springs, issues out of the pipe of ascension into a circular basin, over which there is a stone pavilion. The supply of water is but scanty, amounting only to 29,000 pints within twenty-four hour. Hitherto the source had served only to supply a ferruginous water,* of undecided character, to a few amateur drinkers, who liked the walk as much as the water. But, since 1855, the water has been directed towards the town of Vichy by means of a cast-iron pipe, and made to augment the supply of water for bathing to the Grand Thermal Establishment, as well as to afford to invalids who do not like this long walk, the means of drinking of its water at a spout under the gallery.

Right opposite that establishment, and across the river, is another intermittent artesian well, bored by the same individual to whom is due the preceding spring. It is situated in the commune of Vaisse or Vesse, the name of which it bears. I find it stated in Bouquet's "Histoire Chimique" of the Mineral Springs of Vichy, that this Source of *Vaisse* exhibits the curious phenomenon of a perfectly regular intermission. The ejection of water lasts six minutes, and is announced beforehand by a

* It is a curious fact, mentioned by Fardel, that all these artesian wells exhibit traces of iron. May it not arise from the iron pipe introduced into the bore?

subterraneous rumble, followed presently by a violent eruption of water and gaseous products, strongly impregnated with the smell of sulphureted hydrogen. The termination of the eruption is preceded by a shrill whistling, the effect of the escape of gas—when everything becomes still; and, for the space of fifty minutes the source ceases entirely to yield either water or gas. This lapse of time completed, the same phenomenon is again reproduced with the like circumstances and duration. I was informed that no use had hitherto been made of this water, although its chemical analysis approximates it very nearly to the most *recherché* of the Vichy springs. It temperature is about double that of the surrounding atmosphere in the autumn.

The third succursal, or extraneous spring to Vichy proper, is one of ancient date, though only recently brought much into notice by the large quantity of its water exported to foreign countries, and amongst them, England; where, at the general establishment of the waters of Vichy, situated in Margaret Street, Cavendish Square, a large sale of it takes place yearly.

At about an hour and a half distant from Vichy, and on the opposite or left bank of the Allier, is a village called Hauterive, at the extremity of which are two mineral springs, the principal of which is enclosed in a building surrounded by a garden; while the second is in an open court in front of that building under a peristyle. Within the building, which is the private property of Mons. Brosson, there is a small bathing establishment, and combined with it is a laboratory for the preparation of bicarbonate of soda. This gentleman, whose successors have inherited no small share of the mineral products of Vichy—is the same to whom the

artesian borings, or, more properly speaking, the enlargement of the two previously-mentioned sources "*de Mesdames*," and *Vaisse* are due. He had likewise obtained, by artesian boring, another supply of mineral water from a well, to which his name was given, in Vichy. Its contiguity to one of the sources (alluded to in a previous section)—*le Puits Carré*—adjoining the park, had caused such a sensible diminution in the supply in the latter well, that a law suit was instituted by the Government against the proprietor of the artesian one, which terminated in a compromise—the well being at present let by the heirs of Brosson to the company of shareholders, at the expiration of whose lease it is to lapse to the crown.

The true source of *Hauterive*—respectively called the *Grande Source* and *Source de la Galerie*—in their primitive state, were known and employed since the middle of the last century. Their supply of water becoming slack, an enlargement, by boring, took place, and in 1855 the joint supply obtained from both was found to be 13,499 gallons per day, at an average temperature of 69° Fahr. There is a prodigious escape of carbonic acid gas from the *Grande Source*, which has been made available for the more effectual preparation of the bicarbonate of soda. The *Hauterive* possesses the largest quantity of of carbonic acid of all the waters of Vichy.

A very small supply of the above quantity of water suffices for the bathing establishment of Hauterive. The rest is disposed of in bottles. I shall have occasion to refer more particularly to its analysis and medicinal virtues in another section.

To complete the series of these accessory sources, it is proper to mention that at about the same distance from

Vichy as Hauterive, are the two sources *Grande et Petite de Sainte Yorre*, situated on the same bank of the Allier as Vichy itself, and opposite Hauterive. These sources surge naturally from the soil in a meadow, and are used commonly by the inhabitants of the village and neighbourhood. They present no sensible variation in their main feature from the rest of the mineral waters of this prolific basin of the Allier, the under soil of which would seem to be positively impregnated with alkaline water.

VI.

TABLES OF ANALYSES, BY SEVERAL SCIENTIFIC MEN AND IATRO-CHEMISTS.

VI.

Few mineral springs have attracted more attention, in point of chemical investigation of their specific ingredients, than those of Vichy. They have been sounded, bored, excavated, raised, depressed, shifted, decomposed, analysed, in fact tortured by surveyors, engineers of mines, Artesian well diggers, philosophical chemists, and practical chemists—and, lastly, handled in all ways and for all purposes by Iatro-chemists, or chemical doctors. The waters of Vichy, therefore, call for no scientific or professional intervention from me, who find the result of most valuable labours of that sort ready at hand for the information of my readers. How can I instruct them better on the subject of the composition of the waters we are examining, than by putting them in possession of the fruit of the most complete analyses, and those most to be depended upon, by first-rate professors?

These are not a few in number among the moderns—the only chemists or authorities I care to quote; for as

to analyses by older authors, when chemistry lacked all the resources it now possesses, it would be a waste of time to be detained for an instant by their consideration. The two first I shall quote are Messrs. Berthier and Puvis, who analysed these waters most carefully in 1820. I attended a course of Analytical Mineralogy by the former of these professors, then at the *Ecole des Mines* in Paris, in 1817, and I can answer that in scrupulous accuracy, whilst carrying on the several processes of analytical inquiry, no one was his superior; in fact his memoirs on the Thermal Springs of Vichy are a model of that species of investigation for the period at which it was undertaken.

Then there is Lonchamp, who analysed some, if not all, the springs of Vichy in 1825, but whose results differ from those of his predecessor,—as the results of his successors, O. Henri and Monsieur Bouquet differ from those of Lonchamp. With the help of these, however, we may construct tables of the contents of the several waters enumerated by them—so unerringly intelligible, that I shall have no difficulty in establishing the fact for which I contend, that there exists, and can exist but one sort of mineral water in Vichy. The nature of the soil whence they come, and through which they pass outwardly, might have alone predicated with sufficient accuracy their peculiar nature, whilst the one prominent and uniform mineralizing substance which imparts its character to them all, would confirm at once the correctness of the conjecture.

Mons. Durand Fardel must have had some such notions running strongly in his head when he was penning the following passages in his second letter on Vichy :— " Aujourdhui, par toute cette vallée riante et productive,

l'eau, mineralizée dans les profondeurs de la terre, se fait jour sur les deux rives de l'Allier, dans le lit même de la rivière, par une infinité de sources naturelles qui se rencontrent tantôt à peine perceptibles, au bord d'un chemin, au milieu d'une prairie, tantôt coulant à flots comme à Vichy, offrant dans quelque point, comme à Saint Allyre en Auvergne, comme aux celestins à Vichy, d'enormes dépôts, des rochers tout entiers, en temoignage de l'incroyable abondance avec la quelle, en des temps reculés, elle se precipitaient à la surface du sol."

"Eh bien! toutes ces sources naturelles ou artificielles, c'est à dire obtenues recemment par des forages artesiens presentent la même composition —predominance d'acide carbonique et de soude, puis acides sulfurique, chlorhydrique, sulphydrique, chaux et magnesie et traces de fer; le tout, chose remarquable, en des proportions *presqu' identiques*. Elles varient seulement, ces sources multiples, en temperature, suivant, sans doute, le trajet qu'elles auront parcouru dans des couches refroidies du sol."

Doctor Durand Fardel adds to this *exposé*, that possibly the several sources may differ in their qualities, owing to the presence or relative preponderance, as he calls it, of certain products contained in them, such as iron, sulphur, or organic matter, according to the nature of the strata they may have traversed. But such a supposition, I say it with respect, in the face of the two great and paramount therapeutic elements that stamp the character of the Vichy waters, is hardly entitled to assume the degree of importance its author would give it.

The waters of Vichy, like those of Ems, to which they bear a great resemblance, contain both volatile and fixed principles. Neither oxygen nor azote has been detected

among the former, but only carbonic gas and sulphureted hydrogen; and this last-named gas, by the bye, seemed to me to be purely accidental—a principle of the surface, so to speak, readily evanescent, being no sooner perceived than it is gone. Such is the case at the source under the Great Gallery, as well as the Source Lucas, as mentioned in Section IV. In proof of this it may be stated, that the several analytical tables I have consulted do not even insert among their other contents this pretended volatile intruder. In fact, it does not belong to such a class of mineral waters; for there are not any metallic pyrites or shale in the neighbourhood, the only agents which can produce it; but a partial or momentary vegetable decomposition may give rise to such a principle, and add it to the water when the latter surges to the surface and comes in contact with the gas.

Mons. Bouquet himself, the latest and by far the highest chemical authority, in reference to this part of the analysis of the Vichy waters, has the following expressions:—"Je n'ai pu faire que deux déterminations d'acide sulphydrique; l'une qui m'a permis de conclure la présence d'une *infinitesimale* proportion de cet acide dans le dégagement gazeux de la Source *Lucas;* l'autre tenté sur le gas emis par le Puits Carré, qui m'a donné un resultat negatif."

The fixed principles, after all, constitute the chemical speciality of the waters of Vichy. In the existence of the most prominent of these principles, viz., the bicarbonate of soda, and of its very large proportion—namely, seventy-seven grains in a *litre* (two pints),—all the analytical chemists I have consulted entirely agree: Berthier, Lonchamp, O. Henri, Lefort, and Bouquet. Yet in the face of this proclaimed homogeneity, Dr. Durand

Fardel ventures to propose a classification of the waters of Vichy under three distinct heads of,—1. Simply alkaline; 2. Chalybeate alkaline; 3. Sulphurous alkaline. Of the first class he considers the *Hôpital*, *Grande Grille* both warm waters; and the *Celestins*, cold, to be of the second class, with the sources *Lardy*, *Hauterive*, and *Mesdames*, all three cold, or nearly so; while in the third class he reckons *Lucas*, *Puits Carré*, and *Puits Chomel*. With great deference for so experienced an authority I hesitate not to say, that, with my long practice in the administration as well as examination of mineral waters, I cannot agree either in the classification or the individual specification of its members. The water is pre-eminently an alkaline water, and nothing more, whether warm or cold; because there have been detected accidentally minute *traces* of another element—*iron*, for example, which in my opinion is chiefly due to the fact of the water passing through cast-iron pipes or tubes (as in the Source Lardy), and *sulphur*, which is more than probably added to the water when it reaches the surface of the well and meets with decomposing *confervæ*,—those are no reasons for establishing two additional and separate classes of water. As well might we establish a *fourth*, or a *silicated* class, since we find in *all* the sources sixty-eight times more *Silicium* than *Ferrum*; and as for the sulphur, it is not even noticed in the best analytical tables. These I shall now proceed to give, premising, however, that in adopting all the facts as I find them in Bouquet's tables, I have preferred to arrange them differently, that the facts themselves may appear more distinctly opposite each particular source. It is the method I adopted in my volumes on the Mineral Waters of Germany and England, and has been found much more convenient for purposes of reference.

Amount in grammes, and the thousandth parts of a gramme, of the mineralizing ingredients held in solution in 16 oz. of the water.

Number and Names of the Springs.	Degrees of Heat by two Thermometers		Soda, With the following Acids.						Carbonic Acid, With the following bases.						Silicum.	Organic matter.	Free Carbonic Acid.	Quantity of water flowing in one hour in gallons.	
	Centr.	Farh.	Carbonic.	Sulphuric	Phosphoric	Arsenic.	Boric.	Chloric.	Potash.	Magnesia.	Strontia.	Lime	Ox. Iron.	Ox. Mang.					
1. Grande Grille..	33.65	92.57	2.442	0.145	0.065	0.001	traces.	0.267	0.176	0.151	0.002	0.217	0.002	traces.	0.035	traces.	0.458	730	The old or natural sources of Vichy.
2. Puits Chomel..	44.00	111.00	2.545	0.145	0.035	0.001	traces.	0.267	0.185	0.169	0.002	0.214	0.002	traces.	0.035	traces.	0.384	26	
3. Puits Cabre ...	44.70	112.46	2.446	0.145	0.014	0.001	traces.	0.267	0.189	0.167	0.002	0.211	0.002	traces.	0.048	traces.	0.438	2,080	
4. Hôpital.....	30.80	87.40	2.515	0.145	0.023	0.001	traces.	0.259	0.220	0.100	0.003	0.285	0.002	traces.	0.025	traces.	0.534	766	
5. Lucas	29.20	84.56	2.502	0.145	0.035	0.001	traces.	0.259	0.141	0.137	0.003	0.277	0.002	traces.	0.025	traces.	0.375	334	
6. Celestins.....	14. 3	57.70	2.550	0.145	0.045	0.001	traces.	0.267	0.157	0.164	0.003	0.231	0.002	traces.	0.030	traces.	0.525	8½	Artesian Wells.
7. Lardy	23. 6	74.50	2.455	0.157	0.040	0.002	traces.	0.267	0.263	0.109	0.003	0.355	0.014	traces.	0.032	traces.	0.875	73	
8. Mesdames.....	16. 8	62.20	2.008	0.125	traces	0.002	traces.	0.177	0.095	0.213	0.002	0.302	0.013	traces.	0.016	traces.	0.954	604	
9. Vaisse	27. 8	82.04	1.768	0.122	0.081	0.001	traces.	0.254	0.111	0.191	0.003	0.341	0.002	traces.	0.021	traces.	0.984	uncertain	
10. Hauterive	14. 8	57.75	2.343	0.145	0.023	0.001	traces.	0.267	0.095	0.250	0.002	0 206	0.008	traces.	0.035	traces.	1.092	562	

Sum Total..... Grammes 23.474.

Total 5,183½

N.B.—The Carbonic Salts are in the state of bi-carbonates.
The Chloric Salt is in the state of chloride of sodium.
The weights are in grammes of 15½ grains English.

Neither oxygen nor azote is observed in the Waters of Vichy, according to Bouquet's Histoire Chimique. The gas is almost entirely carbonic acid. Some few sources exhibit traces of sulphureted hydrogen. The highest portion quoted, however, does not amount to one-tenth thousandth of the mixed gases collected.

Thus, by running the eye down any column of the salts, you can embrace at one view not only the relative quantity of that particular salt each source contains, but you may readily sum up the whole of the column, and ascertain at once the total amount of any particular salt or substance which the aggregate number of sources will yield. In the present case, one or two very interesting facts are in this manner readily elicited. Taking the column of the soda with carbonic acid, first, we see at once how similar, with one slight exception, is the proportion of that salt in all the sources; and furthermore, we learn that, taken altogether, the ten sources contain 23,474 grammes of bicarbonate of soda.

If we now look to the quantity of water which each source yields in an hour, and convert that quantity into pints, we shall have the total quantity of bicarbonate of soda which each source yields in an hour and will yield in twenty-four hours, while, at the same time, we get the general total of that valuable salt which the ten sources, analysed in my table, produce every day. In our case that general total is no less than 50,616 pounds of bicardonate of soda, in 124,404 gallons of mineral water.

As the result of a very careful study of this question, Messrs. Berthier and Puvis had been able to submit to the French Government, in 1820, their readiness to supply annually out of the produce of seven only of the principal sources of Vichy 200,000 kilos of an alkaline anhydrous salt or soda, at 82 degrees of the alkalinometer, applicable to the requirements of industry, although double that quantity is represented by the general supply of mineral water, the half of which is either employed for sanitary purposes, or washed into the Allier. We shall see, in the

last section of this volume, how this branch of the industry and wealth of Vichy is managed.

In the mean time, I cannot resist the satisfaction of placing here the beautiful and curious results which these two gentlemen obtained from their researches into the nature of the alkaline salts belonging to seven principal sources of Vichy. These salts, consisting of one base and three distinct acids, are the bicarbonate, the muriate, and the sulphate of soda. And the proportion in which they are present in the source in question is so near to positive identity in each, both by real quantity and by calculation, that to deny the assertion of only one mineral water being in existence in Vichy, would be to deny what is palpably true, as the following table will serve to illustrate.

Messrs. Berthier and Puvis took certain known quantities of water of each of the seven sources, from which they eliminated the proportion of alkaline salt belonging to them, which they afterwards submitted to calcination, and in that state weighed them, that weight being converted into decimals of 100,000, thus—

Name of Source.	Weight of Mineral Water.	Produce after Calcination.	Decimals.
Grande Grille...	1000 grammes.	4 gr. 65 (grammes).	0.00465
Puits Chomel...	936 do.	4 gr. 33	0.00462
Puits Carré	1000 do.	4 gr. 62	0.00462
id.	15250 do.	71 gr. 40	0.00468
id.	20500 do.	97 gr. —	0.00473
Hôpital	1000 do.	4 gr. 65	0.00465
Celestins	975 do.	4 gr. 50	0.00461
Lucas	1025 do.	4 gr. 79	0.00468
Acacia	1000 do.	4 gr. 65	0.00465

Mean proportion, 0.00465.

Upon obtaining which result the author proceeds to say: "The result of our careful analysis of the seven

distinct sources offer so trifling a difference the one from the other, qu'il nous parait impossible que la composition saline de ces sources ne soit *pas identique*.

So far, then as to the principal constituents of the waters of Vichy; but there have been detected besides in them, *or in it*, by later and more modern chemists what Mons. Bouquet, whom I take as the best guide in this case, calls "Principes contenus, ou supposés contenus en petites quantités dans les eaux de Vichy;" and these are iodine, bromine, alumine, strontia, lithine, iron, and manganese—all of which M. Henri admits in his constitution of the waters of Vichy; boracic acid also has been found by M. Filhol, and lastly, an agent with a very ugly name, which has terrified Vichy water drinkers when its presence was first promulgated by Messrs, Chevallier and Gobby, and will no doubt cause a shudder in those of my readers who may be disposed to visit the alkaline spa—I allude to arsenic. What does Mons. Bouquet think on this important point? "Dans toutes les eaux minerales du bassin de Vichy, sans exception, j'ai formellement constatè la présence de l'arsenic;" and then he proceeds to give his grounds for the assertion in confirmation of this discovery made before him, which seem quite convincing of its reality. Arsenic, therefore, exists in the waters of Vichy; but next, how much? Any of my readers who should happen to drink a pint of the *Celestins*, or of the *Puits Carré*, or the *Grande Grille*, either on the spot, or out of the extensive and well-conducted depôt of those waters in London, will have ingested, for every such quantity, one thousandth part of a grain of arsenic, as regards the first, and the half of one thousandth part of a grain as regards the second and third of the above-named sources. No very formidable

doses of arsenic these. We might ingest them daily for the space of three weeks at the rate of three or four times a day with perfect impunity, and even defy the lynx power of either Orfila or Herapath to detect them in a *post-mortem*, whenever it come to our turn to pay the common tribute, in spite of the healing properties of Vichy.

With respect to iodine, bromine, alumine and manganese, we may dispose of them at once by stating that Mons. Bouquet does not admit the presence of the three first, and recognises only "traces" of the fourth of those substances. We have now therefore, to detain us, only the consideration of the presence of iron in the Vichy sources and that shall be brief; for, in reality, and on their own showing, the Vichy chemists do not exhibit any very strong evidence in support of their claim, that their mineral water, besides being sovereignly alkaline, is also ferruginous.

I look to Mons. Bouquet's tables for the proportion of iron he may have detected in the several sources, and I find that, in a pint of each of the first six sources, and the ninth source named in my table, he places that proportion thus:—Bicarbonate of the protoxyde of iron, 0·002 gr.—that is, two parts out of the one thousand parts into which the gramme is divided. Now, as the gramme is equivalent to a little more than fifteen grains English apothecary's weight, the carbonate of the protoxyde of iron present in these six sources for every pint of the water would be two one-thousandth parts, out of a thousand parts into which a weight of iron equal to fifteen grains is supposed to be divided. I adopt this homely and unmathematical language or mode of expressing myself, that the many among my readers,

especially of the fair sex, who are not familiar with decimal ciphering should not be perplexed as to the meaning of so many zeros before the single figure of 2.

The *Puits Lardy*, the *Puits des Dames* and *Hauterive*, however, can boast of a higher proportion of the carbonate of protoxyde of iron (namely, gr. 0·014 ; 0·013 ; 0·09 ; 0·011) in a pint of the water, or half a litre, the quantity upon which all my preceding calculations have been based. Such proportions of iron, amounting to the fraction of a fraction of a grain, in a mineral water, can hardly be deemed of sufficient importance to be supposed to exercise on the human frame that peculiar physiological influence which therapeutic experience justly ascribes to that metal—the colouring principle and mainstay of our blood. Accordingly, no medical man at all conversant with the effect of chalybeates on the human constitution, practising with mineral waters, and requiring the use of a chalybeate for his patients, would dream of sending them to Vichy to take either the *Lardy* or the *Hauterive* water, unless he be an homœopath, who in such case would be in contradiction with himself, since he would be at the same time administering, with these waters, his own favourite *minimissimum* quantity, and the antagonistical maximum quantity of an allopathic dose of bicarbonate of soda. Every circumstance connected with the question of the presence of iron in the Vichy waters shows clearly, that if an invigorating ferruginous water be required, it is not at Vichy that a patient will find it.

On the subject of the quantity of carbonic acid gas given out by the several mineral sources of Vichy, or in solution in the water as free acid, I have already said all

that was important respecting its quantity—which may, moreover, be seen tabulated in the General Table of Analyses. That table will be found to contain all the information which a medical man can desire to obtain on the constitution of a mineral water for therapeutical purposes.

VII.

WHAT ARE THE VICHY WATERS GOOD FOR?

VII.

In a publication professing to describe a place of popular resort for the recovery of health in France, it will not be deemed affectation in the author if he occasionally quotes the opinion of native medical writers in their own very idiom and expressions, as best illustrative of the subject under consideration. Accordingly, I may be permitted to usher in my present (by far the most important) section, by quoting the words of Mons. Brossard: and inquire of my own readers, as he does of his own, in his "*Indicateur*," after having perused the preceding sections of local and topographical interest "quelle imâge vous faites vous de Vichy, de sa position, de son sol, de ses magnifiques etablissemens impériaux, de ses luxueux hôtels, de ses sources alkalines, de sa population flottante, bigarrée, dansante, goutteuse, obstruée, graveleuse, calculeuse, claudicante, paralytique, ankilozée, rheumatisante, &c., quels effets produisent ses eaux sur l'organisme humain?"

These are precisely the questions I did put to myself while studying these waters, and which I proceed to solve, by developing their several parts for the benefit of my readers, curious to become acquainted with the real virtues of the Vichy waters.

In an analogous publication on the mineral waters of Kissingen and analogous chapter, I stated that "in the same manner that an old and experienced practitioner can, at once, divine the complaint of a patient who consults him, by looking at the prescription which that patient brings with him; so may the expert and scientific medical hydrologist, by the mere inspection of the analytical table of the saline and other ingredients of a mineral water, predicate its efficacy in disease."

What then do the analytical tables of Vichy tell us in the preceding section? However they may seem to differ, as regards minor points in the statements of different observers, one grand chemical feature is predominant in all these tables—namely, their extreme richness in the best of the fixed alkalies, the one decidedly most suited to the human organization, namely, *bicarbonate of soda*. Every pint of the water holds in solution thirty-eight grains of that salt, besides half that quantity of several other saline ingredients taken together. Among the latter, though individually minute, there are some essentially of the alkaline class, which add, of course, to the prominent alkaline character of the Vichy water. That water is, in fact, pre-eminently an alkaline mineral water—inferior only in this respect to three other known mineral waters in Europe, and equal to a fourth, namely, Luhatschowitz, ranging from 34 to 44 grains of carbonate of soda to the pint, in its four sources; Billin, in Bohemia, the Sestenquelle, having 49 grains; Tarasp,

in Switzerland, which has 39 grains; and Szczawnice, in Gallicia, the Josephinebrunn, with 38.96 grains.

But Vichy as an alkaline source, has a superior rival in France itself, and in the very same topographical region, namely, the Ardeche, at a place not many miles distant from the Puy, called Val. Here Mons. Berthier found not less than 58.24 grains of crystallized carbonate of soda in sixteen ounces of the water—which in six years yielded 100 cwts. of that salt for sale. This spring, therefore, possesses a larger alkaline power than any of the sources of Vichy, and could not be safely employed undiluted for medical purposes.*

To the great characteristic of alkalinity, then, of the Vichy sources we are to look for their specific medicinal virtues. But in these sources, besides the saline ingredients, there is another element which must be taken into the account, if we wish rightly to estimate their real value—and that is Heat; and in that one element the source of Val is deficient in degree, being in fact a cold water.

I have so often had the opportunity of publicly stating my medical opinion respecting the action of mineral waters in general on the human frame when in a state of disease, and especially of those waters which, whether with or without the addition of saline ingredients, are charged with vulcanic or telluric heat, that I need hardly enter into that question in this place. Those who have done me the honour of perusing any of the volumes referring to mineral waters, published by me during the last twenty years, know, and those who have not seen these volumes should be told that their author, after a very

* See Die Heilquellen Europa's von T. Franz Simon, Berlin, 1839.

extensive range of experiments with *thermal* springs of all degrees, and of many different and distant localities; and after witnessing certain invariable effects on the diseases subjected to their action, has come to the conclusion that the presence of any degree of heat in a mineral water above the ordinary temperature of the surrounding atmosphere, imparts to that water a virtue which its mere mineral components could not produce; and that, in fact, where of two mineral waters of similar or identical composition, the one brings along with it to the surface a temperature any number of degrees higher than the average summer temperature of the surrounding atmosphere, while the other presents and retains permanently a temperature lower than, or equal only to the heat of the surrounding air, results will be obtained from the application of the former to the human body, which it would be in vain to expect from the latter. Nor would the latter produce the same results, were it raised to an equal degree of temperature by artificial calefaction. I state, as I have long ago stated, and often reiterated, *fiat experimentum*, and let me see who will gainsay the preceding propositions. At present I am not in possession of any respectable or authoritative contradiction to them. On the other hand, not a few scientific authorities, among others a great geologist whom I have already cited in the present volume, have said, after due consideration, "We think you are right."

Now, while discoursing on the efficacy of the mineral waters of Vichy, this digression on mineral heat, as contradistinguished from artificial heat, is of the utmost importance in its bearing on that efficacy. To such patients as have gone through a course of those waters, I can safely appeal for their testimony in support of the cor-

rectness of my proposition; for there, as we have seen, and I have logically as well as chemically demonstrated, we find seven or eight sources of mineral water identical in their composition. But who among those patients is prepared to deny that when they swallow a large draught of the *Puits Chomel* they experience immediate and distinct effects far different from those which the ingestion of an equal quantity of the *Celestins* produces? And yet, supposing the quantity drank to have been half-a-pint in each case, the individual will have introduced into his stomach in either case precisely the same quantity of saline and other matter, namely—19¼ grains of bicarbonate of soda, a complex *melange* of potash, magnesia, strontia, lime, silver, and four other compounds of soda, amounting in all to 7½ grains; for look at the two columns of Mons. Bouquet's tables, headed *Chomel* and *Celestins*, and you positively read the same ingredients and quantities twice over. Then, why are the ostensible effects to the drinker different? Plunge the thermometer into each of the waters, and it will give you the key of the secret. You will read off the instrument 111° Far. for the first, and 56° Far. for the second. In fact, the one is hot, the other cold. Let the latter be made 111° by charcoal heat, and see if the ostensible effects of the *Chomel* can be produced.

Now, this very diversity of heat accompanying an identity of composition, sufficiently accounts for the difference which the most expert medical practitioners in the place imagine and assert they have observed in the mode of action of the different sources; and I can readily believe it, since I have long been convinced that volcanic or central heat, besides being an agent acting *per se* on the human frame, is capable of modifying the action of

the soluble substances with which it is associated in a mineral water. We should, therefore, expect different results in the employment of the *Grande Grille*, from those of the *Puits Carré*—in those of the *Hôpital* from those of the *Lardy*—lastly, and still more glaringly in those of the *Puits Chomel* from those of the *Celestins*. Accordingly, all medical authorities I have consulted, and their respective works, agree in assigning to each source a distinct faculty in the treatment of particular disorders.

The Japanese, who are really wise in their generation, and could give us a lesson in more matters than one, have, from the first formation of their language, entertained the opinion that there are two distinct kinds of *heat*. Accordingly they give the name of *Fino-ye* to the elements of fire in its original state, as appearing in the sun's heat, lightning, volcanic eruption, &c.; while to the fire kindled by man with wood, oil, coals, &c., they apply the name of *Fino-to*.

But besides the consideration of a hot temperature imparting special virtues to one and the same water, in proportion to its degree of intensity, Dr. Durand Fardel has pointed out in his way, some other causes of the difference of effect produced by one and the same mineral water—"Comment," says he, "applique t'on un traitement, en apparence identique, à tant de conditions diverses? C'est en modifiant le plus possible les modes d'applications. La nature s'y est prêtée elle même en fournissant sur un espace restraint, le même médicament sous une température froide, trède ou élevée; ici chargée de matière organique, la combiné avec une quantité notable de fer (an error, by-the-bye). Ailleurs, degageant une certaine proportion d'hydrogène sulfuré (a mistake, as we have seen elsewhere). A ces resources

variées offertes par la nature, l'art en a bien d'autres à ajouter. Ainsi pour les bains, la durée, la temperature, la proportion d'eau minérale; pour les Douches les infinies variètés de forme, d'intensité, de siége, &c., sous les quelles elles peuvent etre usitées—et qui toutes répondent à une indication spéciale, qu'il ne sera jamais indifferent de confondre avec une autre."

I had, in a volume before cited, and now out of print, already stated something analogous, and even more to the purpose. What part the various mineral ingredients play upon each other in mineral waters (considering their solutions must be of the most perfect kind to exhibit so limpid and transparent a fluid), and in what relation they stand to each other, are matters of pure conjecture. So many causes may come into action in that operation, and such various agents interfere to modify the solution, that philosophy is baffled in her calculations of the precise results.

A temperature more or less elevated—a greater or less quantity of gas in the water—the presence or absence of light, or much or too little of it—the state of the atmosphere as to heat and elasticity, and probably the evolution of electro-magnetic effects during some stages of the solution, the presence of which may become a modifying agent in the efficacy of a mineral water—these are considerations which have been entirely lost sight of by the majority of medical hydrologists in estimating the value of particular springs and their efficacy in disease.

With respect to the question whether any one of the sources of Vichy possesses specific virtues which distinguish it from the others, Dr. Fardel, without a moment's hesitation, answers it in the negative. And yet he objects to a physician at a distance sending a

patient off to Vichy with the simple injunction, "Allez prendre les eaux de Vichy," without *formulating*, as he calls it, the precise source he should have recourse to—the quantity of water he should drink, and how many and what baths he should take. If, as the Doctor avers, none of the sources possess properties which the rest have not, it matters little which source be selected by the patient, neither would it signify whether more or less be drank of the selected one than would apply to any of the others. Dr. Fardel is evidently in contradiction with himself in this matter. The reverse of his allegation is the more correct view. Each source has some peculiarity of therapeutical and physiological effect which renders it preferable to the rest in the treatment of particular maladies or for the relief of especial symptoms. In that respect Vichy does not differ from any other spa with which I am acquainted, where waters somewhat analogous obtained from divers sources are found to be applicable only to certain distinct diseases. My knowledge of these facts, as applicable to Vichy, is derived from the report of several of my patients who have frequented that place for two and three seasons, and who have been very particular in noting their effect on their complaints.

Dr. Willemin, Assistant Inspector, and one of the Medical Officers of the Civil Hospital at Vichy, in a paper "On the Action of the Waters of Vichy on Diabetes," has established the fact, that those waters are specifically effectual in promptly removing *Glucosoria* (secretion of sugar)—or the preliminary and warning symptoms of that disease—that they are equally, though not so quickly, efficacious when glucosoria has passed into a decided diabetes—but that they act only as pal-

liatives when that malady is become chronic, and are injurious in the most advanced stage of diabetes, when fever, gastro-enteric irritation, and pulmonary disorganization are fully developed. One only reflection I will permit myself in this case. Diabetes has been cured when far advanced, by strongly chalybeated waters, with scarcely any decided alkaline salt present: surely, then, the Vichy waters cannot be deemed a specific for that complaint, although an appropriate remedy.

The fact is, as Dr. Kuhn, of Niederbronn, has stated in a memoir on what he calls "The Specificity of Action in Mineral Waters," that "Medical Hydrologists, those, more particularly, who belong to certain spas, admit still, and with great complacency, the antiquated doctrine that each mineral watering-place is endowed with occult and specific virtues, that renders it suitable to certain distinct maladies; whereas the real state of the question is, not to ascertain whether such a water be special against gout, or rheumatism, or a uterine disease, or a complaint of the kidneys, but under what conditions of a certain given case of disease a certain mineral water is sure to be useful. Thermal medicine is a matter of appreciation and tact. A mineral water has no other value than that which a skilful physician knows how to elicit from it. To consider it as a medicament, prepared and supplied by nature for a single special object, is an error. Mineral waters are simple instruments in the hands of the physician, from which it is for him to obtain the most advantageous results." "*Ce ne sont que les bons medecins qui font les bonnes eaux.*"

The entire of this able essay of Dr. Kuhn is so to the purpose, when introducing to my English reader a new

spa, the claims of which to their attention are first-rate and indisputable, that I cannot resist the temptation of quoting further from its pages for our guide and edification.

"The tendency generally shewn in these days to endow each mineral spring with special or specific properties, exerts a disastrous influence on hydrologic studies. From the moment that we admit a specificity of action, we suppose that the mineral fluid possesses, in itself intrinsically, all the virtue necessary to produce a cure—that there exists, in fact, between the disease and the remedy, such a correlation that the one must necessarily disappear under the influence of the other. Hence the error. As a natural consequence, such a view of the question has for its consequence to induce a neglect of the advantages resulting from different modes of application, and to reduce the part of the physician to that of a simple spectator of a treatment invariably the same for all the world."

Specialist doctrine, therefore, leads forcibly to empiricism—closes the door to all progress; authorizes, and even justifies, all the fables that have been advanced respecting the wonder-working virtues of certain sources. So long as such a doctrine obtains, medical hydrology will be a romance. We must emerge at once, and resolutely, out of such a narrow sphere, and place ourselves definitively on the ground of exact inquiry and physiological experimentation. It is only in this manner that we can successfully put down those disgraceful balneographic puffs which tend to degrade the profession. . . "We shall not then have a writer asserting that patients who had arrived at a particular spa, walking on crutches or dragged about in the chair, the victim of confirmed

paralysis, have, after three weeks of mineral water drinking and bathing, cast off their crutches and walked, thus reproducing the miracles of the Gospel." . . . "Je défie l'auteur de ces lignes," exclaims Dr. Kühn, "de citer un seul cas de paralysié constatée dont il ait obtenu l'entière guérison aprés trois ou quatre semaines de tráitment thermal."

"Such treatises on mineral waters, as insist on a specialistic doctrine, resemble those collections of receipts or prescriptions which are intended to help the ignorant in medicine. They give you remedies for consumption, typhus fever, inflammation of the liver, &c., as the specialist in hydrology recommends mineral water against jaundice, renal disease, or sterility. The one process is of as much worth as the other. They are both contrary to the sound tradition of therapeutics."

Following this inveterate habit of the writers on medical hydrology, my friend Dr. Barthez, while describing each particular source at Vichy, has mentioned the particular disorders of the human frame for the cure of which it has been recommended. Thus of the *Grande Grille* he says, "It is chiefly employed in *pesanteurs d'estomac*, bad digestion, want of appetite, flatus, but especially in congestions of the liver, and to render bile more fluent." Of the *Puits Carré* he says, "This water has always been recommended in disorders of the stomach, complicated with pulmonic disease; it is, according to Debrest, the softest and least incendiary of all the sources of Vichy, and is drunk mixed with one-third of milk; the ancients advised its use to thin, dry, and nervous persons." As to the *Puits Chomel*, Dr. Barthez prefers letting the physician speak of its virtues whose name it bears, the source having been brought to light

by some workmen while digging the foundation of the new thermal establishment in 1775. I shall not relate all the marvellous effects obtained from this source; suffice it to state, that all those who have drank of it have derived benefit, especially people with chest affections, "et les Anglais, qui sont sujets à la maladie de la consumption, la boivent avec plaisir." Again, under the head of "*L'Hôpital*," Dr. Barthez has it that this water is excellent for gout in the stomach, and all sorts of gastric affections; and, according to Debrest, for complaints of the uterus, renal cholics, suppression of urine, and amenorrhœa. The *Lucas* and *Acacia* are set down as excellent in cruptive or skin diseases; and as to the *Celestins*, its reputation, as a remedial agent, appears to have changed three times in the last century. Its present merit seems to be thus described by Dr. Barthez: "La Source des Celestins n'est guère frequentée que par les malades qui sont atteints d'affections des reins de la vessie, de la gravelle, de la pierre, et de la goutte. C'est elle qui favorise le plus la sécrétion urinaire."

There is no royal road for the acquisition of thermo-hydrologic knowledge. "Thermal medicine presents the same difficulties which ordinary medicine does; difficulties referable to a just appreciation of the disease to be treated, and of the proper choice and direction of the thermal treatment." "Le medicin des eaux," Dr. Kuhn continues, "doit nécéssairement étre praticien; plus que tout autre il doit joindre le coup d'œil général à la connaisance des détails; il doit non seulement etre initié aux procédés que des differentes méthodes exploratives, mais encore savoir s'élever au dessus des donnecs que fournit l'exploration, les dominer du régard de l'intelligence, et en faire découler des notions claires et precises sur l'etat

général, dynamique ou diathésique des malades. Une chose essentielle pour lui c'est de savoir bien garder le degré d'energie qu'il convient d'imprimer à l'action thermale et fixer la durée qu'il importe de donner au traitement : c'est de ne pas rester en deça de la limite ni de la dépasser ; c'est de mettre beaucoup de méthode dans les procedés d'application et d'avoir une persévérance qu'aucune difficulté ni aucun ennui ne puissent décourager."

Such a hydrologist practitioner I have found in Dr. Barthez, and him I shall principally follow in the brief enumeration of the diseases which have been mostly benefited by the Vichy waters.

This indefatigable observer has made several experiments on himself and patients, with the view of ascertaining the physiological action of the Vichy waters drank in large quantities. He concludes from their results that—

1. Drank in doses of twelve or fifteen glasses a day, during a period of thirty days, they do not exert any sensible modification in the circulation of the blood. If any such has been observed, it has rather been in the contrary sense than that of an increase in the velocity of the pulse.

2. Pulmonary respiration became more easy, and the muscular action freer.

3. They sometimes induce a decided feeling of weight in the head, and disposition to sleep, and occasionally a slight sense of intoxication, especially in nervous persons and in women and children.

4. They rapidly awaken a desire for food, and render digestion easier.

5. Their action on the intestines is rather of a confining than a relaxing character. If perchance it happens

that the evacuation be augmented, such a disturbance soon ceases of itself; after which the patient will bear larger quantities of the water without any farther trouble of the sort. What says Mad. de Sevigné, when taking a course of these waters, and writing from the miserable hovel which is shewn near the old tower in Vichy—"Rendis-je bien mes eaux? La quantité, la qualité, tout va-t-il bien? On m' assure que ce sont des merveilles et je le crois et même je le sens—je me porte tout aussi bien que j'aie jamais fait."

6. The urine, the alkalinity of which seldom fails to show itself half an hour after drinking the water, becomes, directly after, clear, limpid, and free from uric acid sediment. In regard to quantity, there is a loss of two pints of it, and often more, taking into account the quantity of mineral water drank, in the proportion of urine usually passed by the individual. This difference is accounted for by the quantity of cutaneous transpiration which is augmented whilst drinking the water.

7. A very remarkable excitation occurs in both sexes, of the generative organs, which diminishes towards the middle of the course.

8. The majority of patients, after drinking daily from six to eight beakers of the water, experience, towards the end of the third week, a sort of distate for it, and a weight at the stomach, with sensible diminution of physical strength. These phenomena will occur sooner than the third week if a larger dose of the water has been ingested daily.

9. The apparent inertness of the abdominal organ, during thirty days of water-drinking, is changed quickly into a state of irritation and diarrhœa, should those organs become more suddenly under the influence of some exciting cause; showing the necessity of administering the

water with the utmost caution whenever there exists a tendency to inflammation in the digestive apparatus.

10. Dr. Barthez has further observed, that where the waters *fatiguent ou surexcitent les organes*, it is in the following manner that the effect is exhibited :—

a. On the stomach, by a feeling of weight, distension, and burning, unaccompanied by thirst.

b. On the intestines, by cholic, borborygmus, or diarrhœa.

c. On the kidneys by a sort of heat with pricking, a quarter of an hour or so after having drank the first glass of water.

d. On the bladder, by a weight or malaise in the vesical region, with frequent inclination to pass water, and at times with difficulty in accomplishing that act.

e. On the liver or spleen engorged, by a feeling of formication all over, heat and weight in those organs indicative of the commencement of the process of resolution in them.

Dr. Barthez has also enumerated certain depressing and disagreeable symptoms brought on, in many patients drinking the water, by the approach of thunderstorms, accompanied, in almost every case with an "anéantissement général *des forces physiques*," which he explains on meteorological principles. At all events, it is well that patients preparing to proceed to Vichy should know before hand what they have to expect.

Taking a general view of the chemical ingredients of the Vichy waters, Dr. Barthez, with many of his contemporary practitioners, deduces their physiological and therapeutical properties as thus :—

1. The bicarbonate of soda, in rendering the fluids of the body alkaline, tends to modify their chemical nature

and their secretions, diminish the plasticity of the blood, and, according to Dr. Baron's experiments, to prevent the formation of false membranes in diptheria, and membraneous sore throat. By combining with the albumen, the mucus, and biliary matter, it prevents their coagulation by the acids present in the stomach, or produced in the blood. During the process of digestion the same bicarbonate serves to soften and change into fibrine the albuminous element of certain alimentary substances, thus facilitating the digestion of food by stimulating the mucous membranes and increasing the gastric juice.

2. Bicarbonate of soda, as found in the Vichy waters, acts as an alterative in cases of depraved or acrid blood, and as a solvent in engorgement or obstruction of the liver, spleen, mesentery, kidneys, and uterus.

3. Physiologically considered, soda is essential to our existence and our health, no food being capable to maintain the one or the other that does not contain that principle. Equally necessary is the presence of alkalies for the process of respiration, it being a well-known fact, corroborated by Chevreul's views and experiments, that the alkalinity of the blood is one of the first conditions of pulmonic combustion, and consequently, also, of animal heat, and the transmutation and reconstruction of our organs.

In the Vichy waters this special alkali—bicarbonate of soda—as I have demonstrated elsewhere, exists in such considerable proportions, that, I agree with Dr. Barthez, it is impossible not to abscribe to its presence the larger share of the virtues belonging to these waters. But as to the fact of five grammes per litre of that salt (or what amounts, in English weight, to 38 grains to the pint of 16 ozs.) present in the Vichy sources, being unparalleled

in Europe, the examples to the contrary, which I have cited at the commencement of the present section, will not permit me to agree with Dr. Barthez's statement. It is true that Ems does not contain half that quantity, and that, according to Struve, Carlsbad holds only the third part of it. But the three first-named places in my own statement have a larger quantity by several grains; the fourth place exactly the same quantity; and the place named last of all, in France itself, holds in a pint twenty grains more of the alkaline salt in question than the Vichy water.

Perhaps this would be the proper place for solving the problem of "whence comes all this soda?" In a medical publication such a discussion might be deemed inappropriate. I may nevertheless remark in passing (since it is a remarkable phenomenon) that Sir Roderick Murchison, as an eminent geologist, and Dr. Daubeney, no less eminent as a chemist, have adopted the opinion that excess of carbonic acid which the alkaline waters alluded to contain (Vichy included, where, in the case of the *Grand Grille*, we find 91 cubic inches of that gas for 100 cubic inches of water ejected), dissolves the felspar of the subjacent rocks. In the tract of ground in which the Vichy waters surge, large masses of felspar in those rocks (as shown in the case of the porphyries of Cusset) lie beneath the tuffs and limestone, and really furnish the soda.

Assuming that the large quantity of soda present in the Vichy waters be, with the heat that accompanies it, the principal agent in the salutary effects produced by that water, we may admit at the same time, on sound therapeutic principles, that the remaining elements of its composition, minute, almost homœopathic though they

be, in comparison to the gigantic soda, tend probably to impart to the latter, by combinations that escape our chemical perspicuity, other medicinal virtues than those which are justly ascribed to the soda. We have an illustration of this proposition in our daily prescriptions, in which we find it necessary and useful, as well as beneficial, to add to the basis or fundamental article, others different in nature, and much more minute in quantity, to aid the action of the former, and sometimes to modify it. Attempt positive purgation by means of Epsom salts alone; you may be compelled to give an ounce of them. Drink a pint of Pullna water, the same purgative, and a more active effect will be produced, with one third of the above quantity of sulphate of magnesia, which that pint of water holds in solution. Why so? Evidently because there are sixteen other ingredients in that pint of Pullna water to help the Epsom salts it contains.

Doctor Barthez has entered, in his volume so often alluded to, into a long and learned disquisition, to prove what the waters of Vichy do not accomplish, notwithstanding the repeated assertions to the contrary from many old and even modern practitioners. These waters, he observes, are neither *revulsive*, nor *exciting*, nor *tonic*. The only admissible theory, in the present day, respecting the mode of action of these waters is, that which views them as "une médication altérante ou dépurative" —whereby we try to bring about certain eliminations, resolutions, and regenerations, in regard to chronic diseases. I can perceive in the tone of the many observations by which Dr. Barthez has accompanied the enunciation of his theory, that he is in opposition to the views of some of his contemporaries; still, considering the

great opportunities his military hospital for the administration of the Vichy waters in disease have afforded him, and how systematically he has profited by them, we are bound to accept his theoretical views with his experience. The great point on which Dr. Barthez insists, is the propriety of pushing the internal use of the waters to the complete alkalinization of the fluids of the body. This momentary, but certain modification of the fluids will induce a favourable and enduring change in the abnormal and faulty condition in which the patient was on arriving at Vichy—a condition that was possibly, and invidiously, undermining his existence.

Thus far, as regards the system of saturation of the water in chronic patients. When drank in moderation, however, and appropriately in ordinary cases of malady, Dr. Barthez promises to the patient the following encouraging bit of favourable results :—" L'estomac est légèrement excité, et au bout de peu de jours l'appétit se reveille ; la digestion est plus facile, plus regulière, plus prompte ; toutes les fonctions s'exécutent avec plus de facilité, et le malade éprouve un sentiment de bien-être et d'agilité qu'il ne ressentait pas auparavant ; les aigreurs d'estomac disparaissent, la bile devient plus fluide, son écoulement plus facile ; l'assimilation des substances réparatrices ou alimentaires est plus complète ; les selles, par conséquent, sont plus rares et plus consistantes ; la nutrition se fait mieux ; les chairs prennent plus d'embonpoint et de fermeté ; le teint devient plus frais, plus coloré ; le malade est plus dispos ; tout annonce en lui que l'organisme a reçu un grand soulagement, et que les eaux ont rendu aux organes la force fonctionelle ou reconstitutuée dont ils étaient privés, et calmé leur état de souffrance par un effet sédatif général."

The chemical action on the water is apparently more visible than that on the solids; still no doubt but the latter also must be modified in proportion. The alkaline state of the urine maintains itself for a considerable time, if urine and acids have not been used. Traces of the soda will be observed, in such cases, for many days after having ceased the use of the waters. It is a remarkable fact that, in the greater number of patients, the urine which was alkaline before any repast, ceases to be so during it (unless it be a very light and trifling one), and resumes its alkalinity when digestion is completed. This state lasts about five or six hours, according as that process is longer or shorter, from habit in the patient. Such a physiological fact might serve the purpose of ascertaining the duration of the process of digestion in different individuals, and, I may add, under the influence of different diets.

How are we to explain this curious metamorphosis of of the urine before, during, and after dinner, when going through a course of the alkaline waters of Vichy? Only by supposing that the alkalinity of the blood supplied by those waters is destroyed during the process of digestion, in the course of which all substances introduced into the stomach pass into the acid state—as proved by the able experiments of Montigne. Tiedman, and Gmelin, in their admirable volume on digestion, state that the gastric juice is only slightly acid and in small quantity before digestion, but augments, in both respects, after the ingestion of the alimentary substances. Now, as soon as digestion is ended, the blood receiving no more acid principles which destroyed its artificial alkalinity, the secretions return to their natural alkalinity, momentarily suspended. Probably it is this destruction and re-conversion of alka-

linity of the blood that contributes, in a great degree at all events, to that febrile movement which generally accompanies the process of digestion.

Much of what precedes is derived from the experience of Dr. Barthez, and must carry weight in the estimation to be formed of the mode of action of the waters of Vichy. Another medical authority of no inferior weight, Dr. Durand Fardel, entertains views of his own on the same subject, which are entitled to consideration also as the result of continuous observation among the numerous patients he treats during the season, in his capacity of *Inspecteur de la Source Hauterive.* "Two-thirds of the patients whom one meets at Vichy," observes this physician, "seek from the waters of Vichy either the cure of, or the utmost relief from, disturbed digestive functions." In the estimation of most of the medical men practising there, as well as of the *gens de monde,* the Vichy waters are a species of panacea for what are called *diseases of the stomach.* Under this general denomination Dr. Fardel places different degrees of disturbance in the process of digestion, all more or less productive of momentary or permanent suffering to the patient, but all curable, or to be relieved, by an appropriate course of the Vichy water—1. Indigestion; 2. Dyspepsia; 3. Gastralgia, (and of the latter, two species, Dyspeptic-Gastralgia and Gastralgic-Dyspepsia). Dr. Fardel having previously defined Dyspepsia to be an indigestion without pain, and Gastralgia a neuralgic affection of the stomach without marked indigestion, establishes the two species above named on the prevalence of the one over the other. Dyspepsia, according to the same physician, is always advantageously modified by the thermal treatment of Vichy, which must be viewed in the double sense of its

local action on the digestive apparatus and its action on the general system, inclusive of any other morbid condition that may be co-existent. In the former case, the cure will be easy and complete by the waters of Vichy. They seem to exert a direct modifying influence on the stomach. In the second case, the water treatment must be directed, not only to the dyspeptic symptoms, but also to whatever other general or local morbid condition may be detected. In this latter class of dyspeptic complaints the complete cure by the Vichy waters is, to say the least, very difficult. Often, indeed, it is safer not to attempt the cure by the thermal treatment, or, at all events, to defer it. Connected with same subject, Dr. Fardel mentions *cancer of the stomach*—regurgitation of food, or habitual vomiting after dinner—and excess of flatulency, which he calls *pneumotoie*, "qui rend la vie de societé presqu 'impossible." The sending of the first-mentioned cases to Vichy is a mistake; the second may be perchance relieved at times; but the third never. As to affections of the intestines, they are, of all maladies to be met with at Vichy, the most difficult to treat. Some chronic diarrhœas, and especially those contracted in Algeria, are ostensibly benefited by the Vichy waters.

I find in Dr. Barthez's volume some equally valuable observations on affections of the stomach, though he does not adopt any refined or minute nosological classification. The old name of *pyrosis*, or heart-burn, which he considers as a variety of either acute or chronic gastritis, is adopted by him to signify a disease which the waters of Vichy speedily cure. But it is evident that *pyrosis* is only a symptom, and not a disease. The sensations of "ardeur, et de brûlure dans l'estomac, avec éructations d' un liquide âcre, acide, et brûlant qui se

fait sentir par pris jusque dans l'arrière-gorge," are produced by some more inherent lesion of the stomach, which must reap the benefit of the Vichy water before *pyrosis* can leave.

On the subject of hepatucholic, or what he calls hépatalgie ; on that of the engorgement of the liver ; and on the favorable influence on all these of the Vichy waters, Dr. Barthez is more practical than his contemporary, and entertains views, and affords explanations in support of them, which must come more readily home to his readers—and which I adopt, together with his recommendation of the thermal treatment, for the recovery of those complaints. Dr. Barthez speaks equally favourably of the success of the Vichy waters in engorgement of the spleen.

On diseases of the liver, Dr. Barthez, as well as Dr. Fardel, agree that the action of the Vichy water is unquestionable. Not so in organic congestion or induration of that organ, producing ascites or anasarca. In such instances, the last-named physician states that he had never seen the thermal treatment succeed ; nay, the patient could hardly bear it. To those who suffer from calculous hepatic cholic, it will afford great comfort to read Dr. Fardel's opinion that "il est incontestible que les eaux de Vichy constituent un traitement rémarquablement efficace des coliques hepatiques calculeux, cette maladie contre la quelle la therapeutique offre si peu de résources." It is natural to suppose that in all such cases the Vichy waters act beneficially in two ways—as solvent of the concretion formed of the colouring matter of the bile, and as accelerative of the sluggish flow of the cholesteric principle of that secretion ; hepatic calculi of the latter kind being generally engendered by that very sluggish flow.

But the grand *Cheval de Bataille* which all the medical practitioners and authors on Vichy ride to death, is Gout; and *primâ facie*, we would say, that if it be true that our own writers on gout, many and learned as they are, or have been, without at the same time having thrown any new or more effectual light on its nature and causes—have successfully treated the disease, nay retarded, and even prevented its return by rubbing carbonate of soda over the skin of all the affected parts; then the thermal treatment of Vichy must prove an easy and sure remedy to that complaint. The presence of uric acid in this disease has been considered as its exciting cause. The matter of perspiration is found to be very acid, the urine is charged with uric acid to double its ordinary quantity, and lastly, as the result of many attacks of the disease, we find in most, if not all the smaller articulations of the extremities, saline deposits, or concrete of urate of soda and lime. Audral has considered the nature of gout under two aspects; one, local or inflammatory, having its seat in the fibrous tissue—the other more general, residing in the blood, altered by the presence of uric acid, which ends by being deposited around the articulations.

The writer of the present volume has not published any big volume, not even a pamphlet or a memoir on gout and its treatment; but in the course of forty years' practice he has come in contact with many sufferers from that opprobrium of our profession, and has had frequent opportunities of witnessing the effect of the various remedial agents recommended for its treatment. The conviction on his mind, from all this experience, has been—first, that gout is a general disorder of the blood, occasioned by a daily accretion to its constituents of an acid, the result of a defective digestion, *peculiar only to*

certain individual stomachs (hence its transmission by inheritance), which acid is conveyed direct to the mass of the blood with the chyle, and enters with it into the thoracic duct, conveying thus a slightly acid, instead of an alkaline fluid, which healthy chyle should be. This accretion of a vitiating principle to the general mass of the red circulation may be in infinitesimal daily proportions until the whole amounts to a quantity, the presence of which suffices to provoke a discharge, elimination, or deposit of it on the tender periosteum of the great and other toes, as well as of the fingers and carpal articulations. Inflammation of the part, sudden and acute, is the natural consequence, which produces swelling or enlargement of the part, so that the superadjacent fasciculi becoming distended and tight, acute bodily pain ensues, which will continue for many days; just as any exanthematous eruption like erysipelas, for example, continues for a certain number of days, after the febrile working of the blood has cast off its irritating matter on the skin, which being the rationale of gout, in his opinion, the prophylactic, as well as the curative treatment in the hand of the present writer has been pretty uniformly successful, especially in almost immediately checking the progress of the local inflammation, and consequently the great pain that attends it.

Alkaline medicines, and in particular Vichy water and Vichy pastilles, form the principal prophylactic agents in his treatment, with a strictly-regulated diet. Alkaline medicines, again, constitute the main stay of his general curative treatment during the paroxysm. But as in such a conjuncture it is, above all, essential to guard the stomach from cramp and inertness, which might encourage a revulsion of the gouty element upon its nervous

coat; and as bicarbonate of soda alone thrown into the stomach might give rise to that condition when used continuously or in quantity, it is part of the treatment to substitute a combination of strong liquid ammonia with camphor and the distilled spirit of some aromatic herb. The highest merit, however, of the same treatment consists in the topical application of a nearly similar combination, varying alone in their relative proportion; and the affected part, the instant the pain shows itself—that is, the moment redness, tightness, and lustre make their appearance on the great toe or any where else. Frequently the pain has disappeared in a few minutes after such an application, the swelling has gone down, and ease produced. If the application has been made on the very first blush of the local affection, the attack has often altogether come to an end.

For reasons which naturally derive from the preceding enunciation of principle and practice in the treatment of gout, I should not be disposed to view, without caution and even doubt, the propriety of using indiscriminately the thermal waters of Vichy in that complaint. As regards that point, I am happy to learn that I shall not be considered as strange or eccentric in my opinion, since I find my friend Dr. Barthez beginning his observations on gout with the following passage:—"L'effet des eaux minerales de Vichy contre l'affection goutteuse a été consideré jusqu' à présent de diverses manières; les uns approuvent leur emploi, et les autres le condamnent. Ces deux opinions regnent depuis long temps."

On the subject of rheumatism, so closely allied to gout, Dr. Fardel says nothing; while Dr. Barthez speaks but modestly of the result of his own experience in that disease, as treated by the Vichy waters. But he has an

article on morbid affections of the spleen, which deserves great attention as being connected with those cases of Algerine fever he has so often under his eyes in the Military Hospital. Dr. Barthez' opinion of the efficacy of Vichy on those affections is unquestionably very favourable.

The next complaint which both Dr. Barthez and Dr. Fardel mention as within the province of this Vichy thermal treatment is diabetes; but as I have already made allusion to that disease and its modifications in an earlier part of the present section, when referring to the very recent observations of another of the Vichy physicians, Dr. Willemin, I need not dwell upon the subject in this place. What Dr. Fardel states—and he appears to be a most candid reporter—on the efficacy of the Vichy waters in diabetes is not very encouraging. He has seen cases benefited by them, but many more in which he would have hesitated to employ that remedy.

It would not be just to Dr. Barthez, in the review I have undertaken to give of the practical part of his able work, were I not to mention that he has entered fully and successfully into the question of the uncontested efficacy of the Vichy waters in cases of gravel, urinary calculi, vesical catarrh, in all its forms. In all these affections he speaks with the utmost confidence of the invariable salutary effects of the thermal treatment at Vichy, and the cases he brings forward in illustration are very striking. In albuminaries, Dr. Barthez has only conjectures to offer.

Lastly, we come to the consideration of the various diseases to which the sexual organs in females are liable, and which, according to the statement and opinions of several authors I had an opportunity of consulting, seem

to be influenced by the Vichy treatment in a marked and beneficial degree. Here, however, baths and douches would seem to be the preferable, as well as the more effectual mode of using the Vichy waters. Both Dr. Barthez and Dr. Fardel have treated that subject—as I understand Dr. Willemin himself has done in a professed work, which I have not seen, and, indeed, I have to regret my ignorance of the writings of two or three others, most estimable medical practitioners at Vichy, namely Dr. Petit, principal inspector, Drs. Noyer, Dubois, Nicolas, and Solas, to whom I lament not to have had the opportunity of paying my respects.

VIII.

THE GREAT THERMAL ESTABLISHMENT.—BATHS.

VIII.

It is my firm conviction, that patients repairing to Vichy for the restoration of their health derive as much benefit from bathing as they unquestionably do from the internal use of the waters. For the former purpose, Vichy offers every facility. At no other foreign spa (and I have visited a considerable number of them) are the appliances for mineral bathing better than they are to be met with at Vichy. Indeed, in many respects the great bathing establishment of Vichy, as at present constituted, with its handsome and *succursal* building of very recent date, is superior to those we meet at most of the best watering-places on the Continent. The French possess the art of administering domestic baths to perfection. Nothing can be more complete, more satisfactory, than the way I saw the baths administered in the Thermal Establishment, and again in the New Establishment. I speak from personal observation; and my statement is only a just tribute to truth.

The Great Thermal Establishment, so called, of Vichy,

which I have had many occasions to name in the preceding sections, is the largest and most conspicuous public edifice in the place. Its date is not very remote. There existed, immediately before the Great Revolution of '89, a *Maison du Roi*, adjacent to a Convent of Capuchin Friars, in which the Government tenant of the sources was bound to keep two beds for the use of the poor, besides the usual arrangements for bathing, of which anybody might avail himself—the first comer being the first served. Over the door of this modest edifice was the significant hint to the comers—"*Lava te et porta gravatum.*" The mineral water also was here drank, and the only walk the patients had an opportunity of indulging in during that operation was the garden of the convent in question. Nothing could be more wretched or *mesquin* than the whole arrangement. Shocked beyond measure at such a state of things, the two Royal Princesses of France, Adelaide and Victoria, at their visit to Vichy, in 1785, ordered the architect, Janson, to design and erect a building with a covered gallery to protect patients from the external air; and accommodation was provided for separating the baths for the females from those for the males. The great Revolution supervened, and everything was destroyed, and Vichy forgotten, until 1806, when the sources, and the land that surrounds them, became the property of the Government. Six years later Napoleon decreed, whilst in Russia, that certain houses should be purchased and demolished, and certain adjoining land also acquired, for the purpose of forming a park, which was immediately planted with avenues of plantain and lime trees, that have since become gigantic, and form delicious promenades for the bathers.

But a better and larger building was required for the baths and other purposes, and for these the good Duchesse d'Angoulême made provision from her own privy purse—laying the first stone, in 1814, of the present great building, which was designed by Rose Beauvais, but not completed until 1829. Seventeen years later, one of the ministers of the day, Mons. Cunin-Gridaine, being at Vichy taking the waters, gave directions to Mons. Isabelle, Government architect, to embellish and add considerably to the interior of the great edifice.

The style of architecture of this imposing building, forming a rectangular parallelogram, is simple, yet elegant. It measures in width 228 feet, by 172 in length. The principal front is to the south, facing the Park, and is a floor higher than the other parts of the building. It is surmounted in the centre by a large clock, raised on a stone pediment, and the whole width of this front, except a small portion at each end, is occupied, on the ground floor, by seventeen large arcades, each of which is surmounted by a semicircular lofty window on the upper floor. The north front, looking into the rue Lucas, is that which we visited in company with Dr. Barthez in our third section, and where we described three of the principal sources of Vichy. A gallery at right angles with these two fronts, runs through the centre of the building, affording a covered walk to bathers and drinkers, who find placed against the wall, here and there, seats to rest their weary limbs upon. On each side of this gallery, the elevation of which reaches to the floor above, and is very lofty, are the entrances to the ladies' and gentlemen's baths. The cabinets are decorated with paintings and looking-glasses. The pavement is tesselated with porcelain tiles; and

there is a stove by the side to warm the linen. The *baignoires* are partly secured to the pavement, and have the usual pipes and cocks to supply the cold and warm water, which, however, are not wholly under the control of the bather. There are now one hundred and sixty-eight baignoires for both sexes in this building, besides eight with douches, four of which are *à permission*, and as many are what are styled *ascendantes*. The admission of ladies to their baths is by a special entrance on the left of the building, opposite the Rue Montaret—a sort of Regent or Bond Street for shops, covered galleries, *magasins*, *cabinets de lecture*, and so forth; in which every *objet de luxe*, *de toilette*, *et d'agrément* are to be purchased—I will not say at what prices.

Vast as this establishment will be admitted to be, it was soon discovered that all its resources were insufficient to satisfy the requirements of the increasing number of visitors, and in 1853, when the Government decided on handing over the sources on a lease of 33 years to the present company, it was stipulated that they should provide further accommodation for bathers. The result was, a very showy building, began in October, 1857, and inaugurated with the usual public pomp which attends such ceremonies in France, on the 26th of June, 1858. Mons. Callon, one of the lessees, in the presence of all the municipal authorities of the department and of the town, together with a vast concourse of the visitors then at Vichy, pronounced a discourse of inauguration, giving a historical *resumé* of the origin and progress of the old establishment as well as of the new, which is really creditable to the company under whose auspices it has been so expeditiously erected.

It contains 157 baignoires and sixteen cabinets for

douches. The aqueducts and circulating pipes for the water are on the same principle as those in the parent establishment, and the water will reach the baths with the same rapidity. At the opening of last season there was in Vichy a total of 306 baignoires, with thirty-nine douche chambers. The number of baths given in one season, the year in which the company took the lease, was 100,520. In the season of 1857, the number increased to 170,105. We may guess what it will have been in the following year with the addition of the new establishment. This number does not represent the entire total of baths admissible at Vichy during the season—for, independently of the 17,000 baths given in the military hospital, which should be added—the Government has reserved to itself the right of ordering a number of baths gratuitously to the poor, amounting to 25,000, and 4,000 douches.

It may readily be supposed that bathing establishments on so vast a scale, must require a number of annex buildings to carry on the many operations connected with the full and complete administration of a bath and its consequences: and such are found around the two principal edifices, but in such a manner disposed, as not to interfere with the beautiful *ensemble* which the two principal buildings present to the stranger. As to the mode of administering the baths, and the attendance on the bathers, those who have enjoyed the luxury of a *bain de propreté* at the first establishments in Paris, will form a correct notion of what they may expect in that line at Vichy. Every thing appeared to me to be perfect —and whilst enjoying the pleasure of such an operation, the only drawback I experienced in my mind was the regret that similar luxury and perfection should

not have been attained at every other mineral watering place, at which bathing is a paramount object.

My readers must not suppose that matters have always been so managed at Vichy in regard to bathing;—far from it. Dr. Durand Fardel is quite eloquent in his denunciation of the deplorable condition in which public bathing was reduced in that spa down to 1853. Until then neglect was the prevailing state; and Dr. Fardel declares it not possible to define the sad result and inconvenience from such an *abandon*. "L'impossibilité pour beaucoup de malades d'aborder seulement le traitement thermal, la necessité de prendre des bains au milieu de la nuit, l'obligation de rénoncer presque complètement à l'emploi; des douches à cause de leurs dispositions vicieuses et de l'insuffisance de l'eau universale, l'addition excessive de l'eau douce à l'eau thermale, et bien d'autres abus—tels en étaient les principaux résultats," and he goes on showing the consequences which had ensued. "All this was too well known. No one, whether in society or among medical men ignored the deplorable state into which the thermal establishment of Vichy had fallen, and many of the latter hesitated to send their patients to seek at a distance a treatment which they probably would not be able to carry out, or the reality of which was not sufficiently acknowledged."

Matters are now completely altered, and, as I have before observed, every part of the bathing department of Vichy is perfect. The total quantity of mineral water required for the large number of baths before-mentioned, must be prodigious. The calculation is not difficult. In 1858, 170,105 baths were administered to pay patients, besides 17,000 in the military hospital, and 25,000 to the poor gratuitously, making an aggregate of

212,105 baths. Each baignoire holds about 75 gallons of mineral water, consequently, fifteen millions eight hundred and some odd gallons of mineral water are consumed for bathing purposes alone in the season. But seldom, if ever, is the mineral water employed undiluted, for the quantity required for each bath would hold in solution fifteen thousand grains of mineralizing substances, of which eleven thousand two hundred and fifty would be bicarbonate of soda, besides the quantity of carbonic acid gas held in solution; and few patients could support daily baths of such intrinsic strength of alkalinity.

By the existing regulations no bath can be administered before 5 a.m., or after 6 o'clock p.m. This space of time, abstraction made of the hours employed in other occupations, allows of nine baths per day for each baignoire. One hour and a quarter are allowed for each bath, the price of which, fixed according to a tariff of the *Loi di* 10 *June*, 1853, is 1 franc 25 centimes, for which the bather is supplied with 1 peignoir and 2 serviettes. Never were such luxuries purchased with so little money. The time allowed for the bath includes that for dressing; if exceeded, the charge for it is doubled. No bath of mineral water can be had at Vichy without a ticket obtainable at the office, open from 8 in the morning till 5 in the afternoon, and then only on a written recommendation of one of the physicians resident in Vichy. I believe that the hours allotted for bathing have been since further extended.

Of the various modes of administering mineral water for the removal of disease, there is none more effectual than the douche. This process is now carried on in a way at Vichy that leaves nothing to be desired, and

medical men who may have to send patients to Vichy requiring such a process, besides ordinary bathing and water drinking, may rest satisfied that his patients will reap all the benefit of improved methods of applying its douche. Two are the species of douches to be obtained—1. The impinging douches, or douches *a percussion;* and, 2. The ascending douches, or injections. Of the former species two modifications may be adopted, constituting what are called Resolving and Revulsive douches—the former consists in impinging the warm mineral water from the spout of a pipe, applied near to the part to be acted upon; the latter, on the contrary, by projecting the water upon it from the greatest distance. The latter mode is seldom employed at Vichy as compared to the former; and yet I agree with Dr. Fardel that the reverse should be the case. None of the physicians I have consulted seem to have adopted a third modification of the douche, whether of the first or second species, which I have long been in the habit of employing, both abroad and in this country—namely, the projection of the water of the douche under the water of the bath into which the patient is plunged, without exposing the part to be douched to the external air—to which modification of the douche I have given the name of *dumb-douche*. At the same time, the number of strokes, and that of the atmospheres at which the tension of the douche is fixed, should be carefully prescribed.

Of the *ascending douches*, the same division of species may be admitted, or we might consider them in another light, according as they are direct or indirect; that is, whether they are sent straight to the seat of the disease, or to a part distant from it, for the purpose of producing

revulsion. These species of douches, again, may be rectal, vaginal, perineal. The former differ in their effect from ordinary lavements; for whereas the latter being often repeated through a persevering habit of constipation, accustom the intestines to its stimulus, and weaken the organ in consequence; the former, on the contrary, imparts tone to the intestines, to the orifice of which alone the douche is directed. It stimulates its contractility, and restores to it a regularity of function.

Probably no class of diseases has been made the subject of medicated douches more than those of the uterine, and yet in no diseases of a local nature is greater caution required in administering such a remedy to them. I have seen some almost fatal results from indiscriminate and ill-advised douches applied, either to the vulva or to the loins, or over the pubis, or again thrown up internally, in cases of uterine inflammation, ulceration, or engorgement. And glad was I to read in Dr. Durand Fardel's medical letter a similar spirit of caution given to his readers, on this all-important subject. During a laborious career of twenty-five years as an accoucheur in the metropolis, and a consecutive practice of seventeen summers at the German watering-place which is considered the Spa *par excellence* for female complaints, I have had opportunities enough to enable me to speak with authenticity on this point.

If Vichy can with justice, as I have shown, boast of its Bathing Establishment and its Douches, it has no claim to the possession of any contrivance approaching the nature of a vapour bath, either natural or artificial. The vapour of a water with a temperature of 111° Fahrenheit is not of a nature to be of much service—and even that sort of vapour they have no means of collecting in

sufficient volumes to be made useful. We have seen the hot vapour creeping out in the subterranean crypt of the *Puits Carré*, but its application, like that of the carbonic acid, amounts to almost a nullity. Vichy, in fact, possesses neither mineral vapour baths, nor carbonic acid baths. The latter might yet be contrived, for there is a prodigious evolution of that gas from some of the sources.

Dr. Fardel laments, with an almost affecting earnestness, the absence at Vichy of what he calls *piscines;* swimming baths, I suppose, and I confess I do not sympathise with his querulous representation. In the first place I do not think such a bath would help any patient in his recovery; and, in the second place, unless the waters were kept in constant motion by the continuous influx of fresh supplies from the most abundant sources, we should have rapid incrustations, as at the *Celestins*, at the bottom and at the sides, filling up the *piscina* in the course of a few years. Besides, how would the *Concessionaires* relish the idea of wasting some hundreds of thousands of bottles of the Vichy waters for such a whim as the swimming in a solution of carbonate of soda.

What benefit may we expect from a general bath of Vichy waters? The reply embraces two points—first, the immediate and direct effects on the system, which immerse in the mineral water at an appropriate temperature; secondly, the indirect effect or remote results on the disease. I can speak to the first from a personal trial. It is well to premise that seldom are the Vichy baths administered altogether with undiluted water. Its natural alkalinity might prove too exciting to the majority of skins exposed to such an action daily. Provisions accordingly have been made for a supply of the

waters of the Allier, which is either added cold to the natural water when its temperature is above 100 degrees, or warmed when that temperature is considerably lower. Under either circumstances the water is clear, and exhibits the evidence of free gas pervading it throughout. A sensation of *bien-être* is the first experienced after the first five minutes. On passing the hands over the surface of the body a slight feeling of vividness is perceived, but this, at the end of the first quarter of an hour to the conclusion of the immersion, passes off, being replaced, especially after wiping the parts dry, by a species of satinizing feeling of the skin, similar to that which I described as having noticed in the baths of Schlangenbad. Different from the effects I experienced in the Furstenbad of Wildbad, here at Vichy, after half an hour's duration of the immersion, I felt as if I was saturated with the water, and had had enough of it. The species of excitement I had experienced during twenty minutes after the first impression of *bien-être* before alluded to, was beginning to subside, and a species of languor, or rather lassitude, supervened, which lasted until I came out of the bath at the termination of three quarters of an hour, and continued for some time after I had dressed and resting myself on the couch for a short period. Of course I do not presume to judge on so short an experience; but, guided by my practice in mineral water baths, I should say that the Vichy physicians are hardly correct in directing their patients to prolong their baths beyond twenty minutes. One of the number, at all events, Dr. Willemin, I believe, agrees in this opinion, and he gives ample reasons in support of it.

When a bath is taken in pure Vichy water undiluted,

a degree of redness is produced over the surface of the body, followed by parching and itchings; the patient becomes agitated in his sleep, and often there is a slight fever supervening. In all such cases the baths should be suspended, and the water diluted. There is no doubt that when the undiluted water can be borne (and there are many individuals who can do so), its effect on the skin, by rendering it supple and unctuous, and dissolving the furfuraceous or scaly epidermis, is more conspicuous. A course of such baths at a high temperature, producing energetic perspiration, I should consider as a most effectual means of diminishing excessive OBESITY or *embonpoint*—a malady against which the Vichy thermal treatment has been recommended.

With regard to the remote or indirect effect of such a bath, its very nature and promptitude serve to show that a prolongation of the immersion beyond twenty minutes is unnecessary. It has been ascertained, with regard to the baths of Vichy water, that the urine, after a few minutes' immersion, becomes decidedly alkaline. On this point, I believe, all respectable authorities are agreed. Professor LOESCHNER, Dr. SEEGEN of Vienna, and LEHMANN, have denied this fact, and indeed the absorption of water and its saline substances by the skin altogether; while, on the other hand, another physiologist, HOMOLLE, in a paper entitled "Physiological Experiments on the Absorption by the Human Skin in a Bath," contends that urine becomes alkaline by the absorption of ordinary warm water in a bath. But none of these authorities are to be trusted in reference to the Vichy baths, which they have not tried; and respecting the alkaline reaction of which, on the renal secretion, we possess the most irrefragable proofs.

Dr. Barthez has given us an account of the physiological effect produced by a warm bath of the Vichy water on the circulation of some of his patients, and by another of an equal temperature of ordinary water. That temperature was 34° Centigrade (93° F.) on entering the bath (which was a swimming bath or piscine), and 30° Centigrade (86° F.) only on leaving it. The immersion having lasted an hour and a half, when the water had lost four degrees Centigrade of heat. The result of the observations tend to show, that the more generally received opinion of a lowering of the pulse after a long immersion in a warm bath of Vichy water is not altogether correct, since Dr. Barthez found that, fifty times in ninety, the pulse was raised about the normal standard. His conclusions concerning the numerous observations he made, in order to ascertain the action of the Vichy waters on the human constitution, administered as baths, are worth recording. And as his work is hardly known by the public generally in this country, I shall not scruple to quote it for the benefit of those who may have occasion to visit Vichy for their health.

"1. The circulation of the blood is not sensibly modified by a bath of the Vichy water at the ordinary temperature, during one, three, or even four hours continuance; and if any change is observed, it will be rather in the way of diminution than of any augmentation of pulsation. In my own case, the pulse remained stationary at first—increased slightly in velocity after fifteen minutes, and then fell below par at the conclusion of the bath.

"2. After the twentieth or thirtieth bath a feeling of general lassitude is ordinarily experienced, which shews the necessity of suspending the treatment.

"3. The baths, especially in persons of a nervous

temperament, cause a state of agitation which disturbs sleep, and which may increase even to the production of muscular contraction (cramp), if the baths consist of entire mineral water, and is persevered in for many days.

"4. Cutaneous transpiration is encouraged by the water, which excites the skin. This excitation commonly produces, in persons of delicate skin, an itching sometimes—and other times a pimply eruption that lasts but for a short period.

"5. Wounds, open sores, or any inflamed part of the skin, are greatly exasperated by an immersion in Vichy water.

"6. Acid urine becomes alkaline after a quarter of an hour's immersion, and the urinary secretion itself is at the same time sensibly increased.

"7. As a general observation, addressed to every class of patients, it is useful to remark that all the preceding effects are visible only when the water employed is of the full natural strength, or very nearly so,—but are not easily discernible when the water is much diluted, and consequently it is preferable, in all cases, to administer the bath diluted—for they can then be continued a longer time, whereby more advantageous results are obtained." I believe that it is the usual practice to mix the mineral water with one-half, and even two-thirds, of river water at Vichy.

"Lastly—it is proper to cease all species of treatment, after forty days rigorously employed in it; and even sooner, should a state of lassitude or muscular hypos-thénisation show itself. In all cases, some days of rest appear to be necessary for every patient after the twentieth day of treatment."

On the great importance of bathing while undergoing

a treatment of mineral waters, I have expressed my sentiments, and the result of my experience in former volumes. The success of mineral water drinking, indeed, cannot be complete without bathing in the same or some analogous mineralized water. At the same time, if we expect to completely saturate the constitution with the saline principles contained in these waters, we must assist their injection into the stomach by their absorption through the skin. At Vichy the practice commonly adopted is in accord with the above principles, and there the fact of an immediate absorption by the pores of the skin of the bicarbonate of soda, as proved by the condition of the renal secretion, is fortunately so evident (as before stated) that all doubts of such a physiological result are at once removed. This is an encouraging testimony, if one were wanting, of the propriety, as well as efficacy, of the practice of bathing. At the same time, the fact must not be suppressed, that Dr. Barthez has recorded a particular opinion of the effect of these absorbing alkaline baths, namely, that "Les forces musculaires se trouvent bien plus affaiblies par suite de l'usage des bains alcalins, contre l'opinion du Docteur Petit, que par les bains d'eau douce." Numerous examples have occurred to me to confirm my opinion in this respect, for I have witnessed the same weakness produced in patients who had only used the Vichy waters as a drink and as a *douche*. This effect is due no doubt to the hyposthenizating action of those waters, and need not create surprise, since we know that their predominant property is to soften the fibrin and albumen which constitute the network of our organs, and consequently to render the tissues themselves softer and more permeable.

I shall conclude this section with a statement made to me by Dr. Barthez, which some of my patients have in some points confirmed by their testimony on their return from Vichy. Under the influence of the waters of that spa the nervous system is vividly excited; with some patients the head becomes thick and heavy, with a propensity to sleep; at other times patients experience a sort of intoxication, women especially, more so than men, some of whom compare this excitation with that which Champagne produces on the brain, but which must be attributed to the presence of a large quantity of free carbonic acid in the water drank at the well. The sexual organization in women is sensibly affected by the water and baths, promoting the monthly secretion, and lulling those painful feelings by which it is often accompanied. It is probably owing to the excitation produced both on the genital organs and the nerves of those parts—that we ought to refer the opinion generally received, and often realised, that these waters are favourable in aiding conception.

IX.

MODE OF ADMINISTERING THE WATER; RESULTS OF PRACTICE.—HOSPITAL STATISTICAL TABLES AFFORDING PROOFS-POSITIVE OF THE EFFICACY OF VICHY WATERS IN CERTAIN DISEASES.—ADVANTAGES OF VICHY OVER KISSINGEN AND MANY OTHER SPAS IN THAT RESPECT.

IX.

It is a fortunate circumstance when, in a book recommending for the first time to English readers a new mineral watering-place in a foreign country, the author is enabled to add to the usual reasons for his commendations, such as the nature, character, and efficacy of the water, and the predicated influence it exerts on particular diseases, a further and still more convincing reason, namely, the *truth* of all those commendations, as established by numerous records of cures performed by the hydromineral treatments of the place in question. This is precisely what I am in a position to do in regard to Vichy as a spa of great power, thanks to the existence of the thermal Military Hospital established in that place, and the manner in which it is conducted. To this all-important subject I propose to devote the present section. But before I proceed further in it, I must say a few words regarding the mode of administering the mineral waters at Vichy.

Many medical practitioners view with indifference the manner in which mineral waters in general are exhibited to a patient. They think that a patient is only to be told to drink a certain quantity of water on his arrival at the spa, and nothing more. It is manifest that the faith in the efficacy of such a medication on the part of those who prescribe it cannot be great, else they would be more particular in their instruction as to the use of the water. Would they be satisfied, when treating the same patient for an ague, for example, with telling him to go and take quinine, without any further direction as to when, how, the quantity, and what period of time? If we admit, that in drinking a mineral water holding potent ingredients in solution, we introduce into the animal economy principles endowed with certain considerable properties, it would not be a preposterous proposition to say that it ought to be administered in some particular and well-defined manner.

This manner, as regards the waters of Vichy, must vary according to the individual and the malady for which they are recommended. In the first place, we must determine whether they ought to be taken internally, or as baths only, or in both ways—from which source the water should be derived—in what quantity, and at what period of the day. In most cases the double application of drinking and bathing is resorted to; and yet, in not a few of such cases, symptoms will occur which seem to counter-indicate either the one or the other application, though both might *a priori* be deemed advisable. Tendency to head congestion, and the existence of a decided thoracic structural disease would at once preclude the use of such baths as you get at Vichy. Again, we should abstain from ordering baths, where there exists a conti-

nuous disposition to gouty diathesis, but vague, uncertain, and vagabond: for in such cases bathing in thermal alkaline water might lead to disastrous results. Water drinking alone is here admissible.

Respecting the quantity to be drunk daily, the medical attendant regulates it from the commencement, guided by his observation of the temperament and constitution of the patient. Nor can that attendant relax his vigilance on this point at any subsequent period of the treatment, since with water of such powers it often happens that the quantity to be imbibed requires to be altered. We see, also, the necessity of from time to time instituting an exploration of the state of the stomach and abdominal viscera, as it not unfrequently happens that these organs cannot bear the smallest dose of the water without rejecting it, or without the production of cholic and diarrhœa. In such cases the ingestion of the water must be suspended, and baths substituted.

All these indications and necessary precautions in the administration of the Vichy waters show how important it is for the welfare of the patient, no less than for the credit of the medical attendant, that the latter should make himself conversant with them. Nor is this an easy task, if we credit Baron Lucas, who practised for twenty-three years at Vichy, and thus speaks with regard to the mode of administering its waters:—"The seven sources of Vichy offer, in their medicinal use, differences of much greater importance than we should expect from their chemical analyses: and although it is difficult to appreciate, *a priori*, the reason of such difference, numerous observations, repeated for the space of twenty-three years, leave no doubt in my mind on the

point. In such a state of uncertainty we must consult the susceptibility of the affected organ, the nervous mobility of the patients. *Il faut tâtonner pendant tout le cours du traitement.* This same circumspection is necessary, above all things, in all changes of the atmosphere. The temperature, the degree of dampness, the electrical state of the air, are so many influential causes which one ought never to neglect."

I must not omit, in my present sketch, to mention, that the mineral waters are and ought to be drunk in the morning before any food is taken; and that the most appropriate hour for bathing to select and secure, is between eleven and two o'clock, for those who do not share in the substantial meal of a *déjeuner à la fourchette*, and who cannot secure an early hour in the morning. Most people would prefer bathing between nine and eleven o'clock.

It would seem that in modern times, medical men practising at Vichy have got into the habit of recommending to their patients to drink ten, fifteen, and even twenty glasses of the water selected. Such was not the practice of the older practitioners; for Claude Fouet, who exercised medicine in Vichy many years ago (1686), I find it so stated in Dr. Barthez' volume, was extremely particular in recommending his patients to drink three or four glasses of water a day, and for a period of forty days, so as to afford time to the constitution to become thoroughly saturated with the *virtues* of the water, without running the risk of producing inflammation or congestions in very impressionable stomachs. To this opinion Dr. Barthez himself seems disposed to subscribe, and I am certainly of his opinion, even had we not his immense experience in the treatment of six or seven

hundred patients placed under his care every year in the Military Hospital—the result of the practice of which during the last years I now proceed to detail.

I premise my account by stating that on admission into the thermal Military Hospital, all officers, non-commissioned officers, and privates, are in the columns of an official register, treated thus—1. Number; 2. Name and Surname; 3. Regiment; 4. Rank; 5. Age; 6. Temperament; 7. Constitution; 8. Disease; 9. Date of the Attack; 10. Treatment anterior to admission; 11. State of the patient on his admission; 12. Treatment with the water, drink, baths, douche, and their number; 13. Number of days of the treatment; 14. Phenomena, accidents, or diseases occurring in the course of the treatment; 15. State of the patient on quitting the thermal Hospital; 16. Indication of the consecutive effects of the water treatment up to the 1st of March ensuing; 17. Remarks. In column number 8, the particulars of the case as set down in the medical certificate which the patient brings from the regimental surgeon, are entered: and the same regimental surgeon is bound, at the expiration of six months, to report categorically the state in which the respective patients happen to be in respect to the hydromineral treatment they had undergone at Vichy. Thus Dr. Barthez is able to form a true and correct estimate of every case of disease that comes under his care at Vichy, from its commencement to its real termination, whether successful or the reverse. A medical statistic so based (as Dr. Barthez himself very properly observes in a letter he favored me with in April last) is the only one that can be exact, as the patient's history is followed up from the beginning of the treatment until even one or two years

after its cessation. To report, as a definite result of the course at Vichy at the end of the season, any case as finished, either favorably or otherwise, is to place ourselves in a position to adopt erroneous conclusions: since a cure reported at the end of the treatment may prove afterwards to have been only ephemeral, whilst on the other hand a supposed failure may, through the consecutive effect of the waters, turn out a real and complete recovery, "or comme parmi les malades civils de toutes les nations qui se présentent à Vichy on n'obtient pas, auprès d'eux tous les renseignemens dont nous avons besoin pour établir une statistique *exacte*, et que je crois incomplète, je n'ai pas voulu vous donner ces résultats qui pourraient être infidèles. C'est pourquoi je n'ai pas compris cette statistique des malades de la ville dans les tableaux que je vous ai adressés qui sont les seuls *exacts*."

I feel particularly indebted to Dr. Barthez for his courtesy and liberality in enabling me to give to my English readers this official return, which has no where been published, having been drawn up for, and despatched to the military authorities in Paris, at the conclusion of the season at Vichy last September. The Minister at War is in possession of a number of similar reports from Inspector Barthez, forwarded from year to year, in accordance with the rules of the military service. Their great merit is their minute precision and accuracy. No erroneous conclusions can be drawn from the perusal of such documents.

Analytical and Clinical Table of Diseases admitted and observed in the thermal Military Hospital of Vichy, the numerical results of which serve to exhibit, with the utmost precision, the therapeutical (Medicinal) action of the alkaline waters of Vichy in their treatment.

I. Class—Diseases of the Digestive Canal.

1. *Chronic Gastritis.*

*A. Cases observed and ascertained at the end of the course of the water — 50 Patients.—Cured 23; improved 20; result not favorable 7.

†B. Cases observed and confirmed by time—39 Patients. — Cured 23; improved 12; no result 1; dead in the course of the year following the treatment 3.

2. *Gastro-entero colite (chronic) with or without Diarrhœa at the time of the cure.*

A. 57 Patients.—Cured 18; improved 26; without result 11; dead 2.

B. 31 Patients.—Cured 20; improved 10; dead 1 in the course of the year.

* These notes express the result of the water treatment at the time of the patients quitting Vichy after the course, when they were returning home. The distinction is very useful, as many so-called cures may be ephemeral only, and it is not of such that we care for statistical returns.

† These notes indicate that Dr. Barthez had received concerning the patients of this category during the year or years following the treatment at Vichy, information and positive certificates from their medical attendants, of the definitive result of the water treatment.

3. *Affections considered as Nervous, of the digestive canal, such as Gastralgia, Dyspepsia, Enteralgia, Vomiting, characterised by disturbed functions.*

A. 210 Patients.—Cured 98; improved 96; no result 16.
B. 128 Patients.—Cured 56; improved 53; no result 18; dead 1.

II. Class—Diseases of the Liver.

1. *Simple Inflammatory Hepatitis.*

A. 71 Patients.—Cured 40; improved 24; no result 7.
B. 44 Patients.—Cured 21; improved 18; no result 5; dead 1, in the course of the year.

2. *Engorgement, Induration, Obstruction of the Liver.*

A. 82 Patients.—Cured 37; improved, or in the way of recovery, 36; no result 8; dead 1.
B. 21 Patients.—Cured 7; improved 8; no result 2; dead in the course of the year 2.

3. *Abscess in the Liver.*

B. 5 Patients.—Cured 3; improved 1; no result 1.

4. *Hepatic Calculus.*

A. 1 Patient.—Leaves Vichy in a fair way of recovery.
B. 5 Patients.—Cured 5.

5. *Nervous Hepatic Cholic (Hepatalgia).*

A. 10 Patients.—In the way of recovery 9; no result 1.
B. 20 Patients.—Cured 20.

III. Class.—Diseases of the Spleen.

1. *Engorgement and Obstruction of the Spleen,*

A. 31 Patients.—Cured 8; improved 20; no result 3.
B. 41 Patients.—Cured 19; improved 12; no change 10.

2. *Engorgement of the Spleen and Liver, with paludean Cachexy—consequent on attacks of African Intermittent Fever and other paludean Agues.*

A. 90 Patients.—Cured 27; improved 40; no result 16; dead during the treatment 4.
B. 32 Patients.—Cured 16; improved 13; no result 3.

IV. Class.—Diseases of the Bladder.

1. *Vesical Catarrh.*

A. 123 Patients.—Cured 46; improved and likely to recover 65; no result 11; dead 1.
B. 76 Patients.—Cured 42; improved 29; no result 4; dead in the course of the year 1.

V. Class.—Gravel.

1. *Of Uric Acid.*

A. 88 Patients.—Cured 50; improved, or in the way of recovery, 32; no appreciable result 6.
B. 39 Patients.—Cured 18; improved 19; no result 2.

N.B. Six of these patients shewed symptoms of gout.

VI. Class.—Gout.

A. 50 Patients.—Apparently cured 26; improved 30; not improved 3.

B. 85 Patients.—Cured 43*; improved 36; without appreciable improvement 6. In not one instance has Dr. B. observed any untoward accident from the use of the Vichy water in such cases.

Concerning gouty patients Dr. Barthez makes the following remarks:—

a. The longest interval of respite from the disease that has been observed in patients who have gone through the Vichy treatment has been four years, but its mean duration has been from 15 to 18 months.

b. Of 65 patients observed;—12 belonged to gouty parents, and 34 to parents who had never had the gout; of the remaining 19 no accurate account could be obtained.

c. The age of the youngest patient has been 20 years at the commencement of the disease; and that of the oldest 57 years when the gout first shewed itself.

d. With regard to the age of patients of division B above—the 85 may thus be arranged:—

Between	10	and	20	 1
„	20	„	30	 5
„	30	„	40	 35
„	40	„	50	 31
„	50	„	60	 9

* By this expression it is meant that the patients had not had a fresh attack of the disease in the course of the year, or years following the cure.

Gout declares itself soonest when it is hereditary. Damp cold weather has proved the most frequent cause of the return of the paroxysm.

VII. Class.—Rheumatism.

A. 55 Patients.—Believing themselves cured 23; improved 23; no result 9.
B. 25 Patients.—Cured 12; improved 8; no result 5.

VIII. Class.—Diabetes.

No. of Patients observed 73.—Of this number 32 lost the presence of sugar in the urine at the end of a few days of the treatment; 30 have obtained a more or less sensible diminution of the same; and 11 have continued in the same state.

Of the 73 patients, Dr. Barthez has not been able to obtain precise information, during the year subsequent to the cure, of more than 30. Of this number, 7, after a year, showed no appearance of sugar in the urine, but in all the others sugar had reappeared in that secretion. As regards Albuminuria, Dr. Barthez states that he is not in possession of facts to entitle him to give an opinion.

In reference to the condition of the urine, Dr. Barthez has communicated to me, in a recent letter from Paris, the result of observations he made with the view of ascertaining whether that secretion presented in those who had made free use of the Vichy waters, any token of the existence of arsenic—an ugly interloper which some recent analysts had detected in the Vichy waters.

His observations on that head I will quote in his own words. "I have made inquiries respecting the urine of patients who have made a long and large use of the waters of Vichy, with the view of ascertaining whether any trace of arsenic existed in it, and my experiments have taught me that there is no possibility of detecting the smallest sign of that substance in the fluids of our patients;—a fact which has a certain importance in judiciary medicine"—to which I add, and a fact the knowledge of which will give comfort to my English readers intending to drink the *Celestins* or the *Hauterive* at home or abroad.

I need scarcely point out the immense superiority of the preceding mode of obtaining evidence respecting the value of certain mineral waters in the cure of diseases, over the ordinary routine of reporting, on the part of the local practitioners, the desultory results of their own individual experience. In the one case we have positive and indisputable results, in the others conjectural and consequently questionable returns. This difficulty I found in dealing with the Kissingen waters, and when in the volume I published respecting them, I ventured to give a statistical table of such diseases as I had treated in the course of ten years among the proportion of English patients who fell to my share; among the 3,699 visitors from England to Kissingen during that lapse of time, I only expressed the result which was apparent at the end of the treatment, or I had accidentally ascertained later in the year from the patients themselves. In many instances, the result cited in that table was not obtained until after two and three seasons of the water treatment.

What I assert of Kissingen in such a matter, is

equally observable in almost all the principal spas of Germany. We want in each of them a public thermal establishment, like the military hospital at Vichy, in which the patients, treated by able practitioners, well acquainted with the nature and power of the mineral waters, with which alone the patients should be treated —would afford us at the end of the cure, or in the course of subsequent inquiries, most fully recorded, the only data with which the profession could build up a system of practical medical hydrology of undisputed value.

X.

DIET—REGIMEN—HYGIENIC CONDITIONS—GENERAL AND PARTICULAR CAUTIONS AND DIRECTIONS.

X.

To such of my readers as shall peruse the contents of the next succeeding section, it will appear a mockery that I should in the present one discourse learnedly (as I purport doing, if I can) on the necessity of any rules of diet as part of the Vichy thermal treatment. Rules of diet, if we intend the mineral waters to produce their proper effect, must be strictly observed; and if the individuals, whose "doings" I have to pourtray presently, shall choose to set them at naught by their indulgences and *gourmandise*, the penalty of their guilt be on their heads, or, more correctly speaking, on their stomachs; for assuredly they will have to pay smartly for it.

Let us look first at what may be considered as elementary aliments, in treating of diet. Bread is the first among these: fortunately I am able, from personal observation, to report it as being excellent at Vichy, and prepared from the best wheaten flour. It is light,

spongy, free from acidity and all adulteration; its colour is not so white as that of the bread in Germany. Next to bread, all species of farinaceous food are to be commended, which are known to be consistent with the daily use of mineral waters; they are easily digested, and quickly restore wasted strength in debilitated individuals. Rice and Italian paste, sago and tapioca, are advisable; not so as regards potatoes, no matter under what form. Next in the order of vegetables may be mentioned, as acceptable, spinach, lettuce, succory, young carrots, asparagus, Jerusalem artichokes, salsify, artichokes, cauliflowers, Brussels sprouts, young and tender peas, and green haricots. The nature of all these vegetables, observes Dr. Barthez, perfectly reconciles itself with the chemical properties of the water, besides being intrinsically light, *adoucissants*, and of easy digestion.

Of animal food, almost all the species that are in general use are admissible with the Vichy treatment. Some there are, however, which are preferable to others on account of their well-known digestibility, as, for instance, milk and eggs, the latter *à la coque*, or poached, or *en omelette*, but never boiled hard. Beef, mutton, lamb, and veal are aliments of first quality; but pork in any shape, or salt meat, must be eliminated from the diet list. I am surprised at the Vichy doctor allowing such detestable creatures as pigeons and ducks, whether wild or domesticated. Nothing is more indigestible, as is evinced by the *feverette* which is sure to follow in a couple of hours or so after eating them. Wild hare is still more objectionable, so is highly-scented venison. Partridges, quails, becaficos, larks, chickens, capons, among the feathered tribes, are the most nutritive and digestible. Judging for myself of the character of the

Vichy water cure, I should insist on my patients never eating any of the preceding allowable articles of diet otherwise than plain roasted, avoiding all stews, and messes, and sauces; though it must be admitted, that when a *cordon bleu* prepares the latter condiments, objection to them is hardly defensible. But boiled meat I should certainly prohibit. Never forget that the osmazome and the sapid, as well as most nutritious principles of animal food are nearly altogether destroyed by the process of boiling, and yet the first *pièce de résistance* we are offered at any of the public tables at a spa, both in France and Germany, is the *bouilli*, which has served to make broth for three hundred people, and left a *caput mortuum* behind, fit to make gutta percha with. With fish Vichy is indifferently supplied; the Allier administers some varieties of that class of food, which are all easy of digestion, and of an agreeable flavour—rather insipid than not, as most river fish is—except salmon, which is caught in the neighbouring rivers, but is not quite consistent with alkaline waters.

I was again shocked at observing patients drinking the Vichy waters for the cure of dyspepsia, use chocolate in the morning—chocolate I mean prepared *à l'Espagnole*—not your shabby cocoa nibs water. If there be one thing more inimical to a dyspeptic stomach than another, it is the very chocolate in question. Butter, also, I found permitted;—cheese, cream, and salads, equally so; and I asked myself, how can these be reconcileable with the ingestion of strong alkaline waters.

Fruit of all sorts is justly prohibited: yet, to some patients, who are only ailing and not seriously ill, strawberries and ripe peaches have been allowed. If the former be prepared with some Burgundy or Bourjealais

wine and a little sugar, and the latter eaten with bread, it will be found that both may be taken with perfect impunity, and even advantage. Is coffee, is tea, are ices admissible? What says Dr. Barthez? Like most oracles, he delivers an opinion on each problem, which may be taken either as permissive or prohibitory. If you are a nervous person, you must not drink the first; if the second makes you nervous, you must not take it; if you have a care not to be in a perspiration at the time, you may eat the third. In fact, under particular circumstances, all three are permissible, otherwise not.

That little monosyllable calls before me a terrific array of *non-admissibles* in the way of diet, contained in Dr. Barthez' volume. It almost brings back to my mind's visuals that huge table or sanitary decalogue which used to stare one in the face, while seated at my modest little dining-table in the great dining-room of the Hotel de Saxe, at Carlsbad, on which were inscribed the words, "Thou shalt not eat this; thou shalt not drink that," and so forth, even beyond the tenth commandment. Dr. Barthez is equally stern and immoveable in his ordonnances, which he declares are grounded on two considerations; first, the indigestibility of the aliment; secondly their chemical incompatibility with the essential elements, the bi-carbonate of soda to wit, of the Vichy water. We must not eat goose, pig, wild duck, hare, *et généralement toutes les viandes noires*, because they fatigue the stomach, and augment the acid principle of our fluids, besides diminishing the urinary secretion. We must not touch smoked or hung meat, we must not touch pastry, *fritures*, in which butter or grease abound, or compound puddings, swimming in sauce. Equally objectionable are all the *légumes secs*, mushrooms, and

pepper. One injunction of the worthy Doctor I should certainly kick against most obstinately, and that refers to the use of kitchen salt. Why! I owe my long life to it. I have never known an individual disliking or disregarding the use of that first of all condiments for the human stomach, whose name ever decorated the tables of longevity.

But we have not done yet with this prohibitory catalogue. There are still the chemically incompatible articles of diet to be disposed of; and the first in the rank, I grieve for my fair readers to remark, are fruits of every sort, which are actually characterized as *dangerous*. In order to prove this assertion, Dr. Barthez, the legislator, enters into a sort of popular chemical explanation of the composition of fruits. They are gummy, or mucous, or saccharine, or all these three principles together; but by the side of these principles, observes the author, there are others, which are known as acids, under the appellation of malic, acetic, citric, tartaric, oxalic, and gallic—principles which must, *a priori*, be deemed to be hostile to the action of such a water as that of Vichy, since they completely nullify its alkaline property. Under such circumstances, if the truth must be told, those patients who make use of such fruits, instead of introducing into their economy, bi-carbonate of soda, as it was their intention to do when imbibing the Vichy waters, insert into it, in reality, *tartrates*, *citrates*, *acetates*, and *oxalates* of soda, without the smallest alkaline property, and the effect of which, as we are in the habit daily of witnessing, when we prescribe those saline compounds to our patients in various diseases, are very different, and in no way analogous in their medicinal action on the system. Such combinations

tend to destroy, in fact, the specific action of the Vichy waters, and render consequently null its salutary effects. Oranges, lemons, cherries, currants, and even strawberries are by Dr. Barthez condemned as "fruits malfaisans;" and I am sorry, with regard to the last-named fruit, because I admitted it among the permissible articles of diet, on my own authority, at the commencement of the present section. I still maintain that, eaten with bread, and qualified with wine, the chemical play of all those frightful acids in the Doctor's nomenclature is completely muffled. He, however, will not hear a word of compromise on the subject, and goes so far as to prop up his own authority, already and justly high, with that of a member of the Institute, no less a person than the eminent Professor Lallemand, well known to all my professional brethren, of whom he relates the following anecdote, as communicated by the Professor himself. During his residence at the University of Montpellier, patients consulted him who laboured under various degrees of slight irritation of the digestive organs, for which, by way of refreshing aliments, Lallemand usually recommended the use of strawberries. To his great astonishment, a few days after the greatest number of these patients came to report to him that they passed the strawberries they had taken with their urine. Manifestly impossible as the phenomena was, Lallemand had the curiosity to ascertain the nature of the alleged fact, when he discovered that the presumed red pips of the strawberries were nothing else than round grain of uric acid deposited at the bottom of the vessel in the form of gravel. Well, what of that, say I? Dr. Barthez, besides being an able writer, is no doubt a good logician; what inference, then, can he logically draw from such an

anecdote, except that the eating of strawberries produces uric acid, a fact every one knew, and required not that the ghost of a professor should come from his grave to tell it us? But how does the anecdote prove that these same strawberries, *washed down with Vichy water*, would still manifest their presence in the urine in the shape of uric acid globules? which is the question after all. Dr. Barthez has had a thousand opportunities of investigating that problem, why has he not done so, and left Lallemand to himself? Has or has not the occasional eating of strawberries exhibited its more ordinary effect on the urine, when they were eaten by a person daily drinking the Vichy water? And has Dr. Barthez tested the urine of such patients, under that circumstance, in order to ascertain whether the alkalinity of the urine, which that water was to produce was found, on the contrary, to be absent? *Voilà, mon cher Docteur!* the *experimentum crucis*. How comes it that I do not discover it among your learned and clever pages?

But though we miss in his book that proof of the correctness of his *dictum*, in regard to the internal use of acids, Dr. Barthez expresses himself in not less positive terms as to their inadmissibility in another part of his volume, where, after having traced the route, physiologically, by which a mineral water, introduced into the stomach, arrives at the heart, and thence into the lungs, "toujours à l'abri de toute décomposition étrangère à l'organisme," proceeds to state:—"This will prove to patients, against the opinion of those physicians who recommend the use of acids as being of no consequence in the Vichy treatment, that it is not a matter of indifference to the drinkers of those waters to follow such advice, and thus project into their organs a mendicament

decomposed in the outset by a heterogenous mixture of acids with alkalies, instead of allowing it to act undisturbed in all its natural composition." Is it a mere guess on my part, that all the preceding observations, like the first one of the learned author about acid fruits, are levelled at a contemporary practitioner and writer, who, treating on that same subject, bluntly observes :— "On disait autrefois ; les eaux minérales sont alcalines ; donc il ne faut pas introduire d'acides dans l'économie, de peur de les neutraliser. Cette chimie d' un autre âge et ces principes surannés règnent encore aujourdhui sans conteste," &c. &c. Certainly not *sans conteste*, since Dr. Durand-Fardel himself is making an exterminating war against them!

The prohibitory catalogue of Dr. Barthez terminates with a formal condemnation of the *fromage à la crême*, with which he says the tables at Vichy are so profusely decked ; the said *fromage* being "très-acide,"and by all means to be rejected.

We pass now from eating to drinking, that is, drinking some thing different from mineral waters, or what the French doctors call *Boisson alimentaire*. That pure and limpid water, fresh and sapid, is the most healthy of all beverages, is a medical assertion as old as Hippocrates. An ingenious German professor, Dr. Mosler, of the University of Giessen, has recently published a work in two parts, to show the influence which plain water exercises on the digestion and nutrition of man, and he concludes the first part of his experimental researches on this interesting subject, the only one as yet published, by declaring his conviction that water eminently contributes to favour and render more active nutrition. The individual who drinks nothing but water has, generally, a fresh

and clear complexion, "l'esprit libre, le caractère plus doux—plus égal et la santé mieux affermie;" consequently, concludes Dr. Barthez, pure water is the best drink for an invalid at Vichy. Fortunately, plain water at that place happens to be particularly good. The public fountains are supplied with it by subterranean pipes from the neighbouring mountains of the Vernay. The waters from both the Allier and the Sichen rivers is even purer than the mountain water, according to recent analyses. But is water alone to be the ordinary beverage at Vichy? The reply to so simple a question is again a subject of divergency of opinion among the learned physicians at Vichy. While Dr. Barthez proscribes the usual wine, Dr. Fardel considers it not only admissible, but necessary. The former analyses both wine and beer, and, by means of a chemical reasoning of which I gave an example when treating of the use of fruit, he shows that both beverages are injurious to the operation of the mineral waters. The latter considers all this hypercritical and *bosh*. There is exaggeration in both opinions. My long acquaintance with the use of mineral waters has taught me that, although a course of the waters that has been gone through with a total abstinence from alcholic beverages is generally the most successful, as well as the most beneficial in its result, there are cases in which that course would prove ineffectual, indeed impracticable, without an occasional, and sometimes even a daily administration of stimulating drinks at meals. In the latter cases the wine should be diluted, but never with any of the cold effervescing Vichy waters. Burgundy, and better still, Bordeaux, should be preferred for such as suffer from gastric or intestinal irritation.

After eating and drinking comes sleeping; sleeping

is food. It is the food of the muscles; the food of the senses; the food of the brain. Whilst all the functions of the internal body continue acting, during sleep, upon the nutriment they have received, subject to the same wear and tear they undergo in waking hours; the functions of the external body, on the contrary, cease from their wear and tear operation, and thus passively promote restoration and comfort. To rest with the muscles, the senses, and the brain, is to rally, to regain strength, and to become renovated. Yet judging from the reports of many of my patients, who have visited Vichy during the season, not less than from the account I find in all the writers of that spa, sleep is not much cultivated there. If what I am made to say in the next section be a true brief, patients, who to secure a bath, have to quit their beds at five or six o'clock in the morning, or are tempted by the allurements of the night to loiter till twelve in the Rotunda, leave themselves but a brief space of time for repose. How different the Country spas are, in that respect, from those located in Towns? Here we keep the metropolitan hours; there patriarchal; and at ten p.m. every one is asleep. Seriously speaking from six to eight hours' sleep are necessary for patients following a regular mineral treatment of four weeks; no siesta then, nor chance dozing (always objectionable under those circumstances) would be necessary in the course of the day.

Bodily exercise out of doors, either on foot or on horseback, and by any conveyance, needs hardly a word of recommendation in order to press its importance on the attention of patients. The mere sentinel movement generally adopted at all drinking spas, during the many hours when the water is drunk or sipped, is not the

bodily exercise I mean. To walk backwards and forwards in straight line for a certain number of minutes between every two beakers of the water, is simply a tiring monotonous operation, which brings into play and fatigue one set of muscles only, with very little benefit to the rest. The patient, therefore, will act wisely to take a constitutional walk every day towards some interesting point, varying it as often as possible.

In walking, care must be taken to be suitably clad, according to the time of the day, and the state of the atmosphere, and again, with reference to the character of the locality to which the promenade is directed. The early morning hours are fresh and hazy; the evenings are damp and often cold. There are dense dews in the prairies near the river, and sometimes mists and fogs also; to sit under the trees, in the Park, after sunset till nine o'clock, is a dangerous practice; yet many imprudents are seen to indulge in this to their subsequent detriment.

It is important, also, to suit your garments to the state of the weather, and the hour of day you go abroad. A drinker and bather at Vichy walks out with the surface of his body presenting as many open mouths as there are stars in Heaven, ready to imbibe vaporous inhalations, and be chilled by damp and plaguy east winds, or cutting northerlies. All should wear light flannel under-waistcoats in the day, and sleep at night with the same sort of garment made of print cotton—thus protecting themselves from a sudden stoppage of the exhalent vessels or pores, while they promote the action of the absorbents.

It is strenuously recommended by all hydrologist physicians to their patients to abstain, while under a mineral

water treatment, from all active employment of the mind likely to produce excitement, worry, or disagreeable feelings; occupations involving serious or constant mental exercise should be studiously eschewed; and business transactions should be adjourned to the days of recovery. Some go so far as to prohibit excitable and lively ladies from indulging in epistolary correspondence. But these are strong in Madame de Sévigné's letters, and their reply to the Doctor's is hers, when she wrote from Vichy to her daughter:—"Si les médecins, dont je me moque extrêmement, me défendaient de vous écrire, je leur défendrais de manger et de respirer pour voir comme ils se trouveraient de ce régime."

Amusement, on the other hand, and what the French call *distraction* (the very antipodes in signification to the same word in English) is much vaunted by the Vichy physicians, and as they are able to secure it to their patients it is all well. But it must not be supposed that for the success of a mineral water treatment, it is essential that the patients should be all day long on the *qui vive* of pleasure and joyous excitement. I have always found that those patients who went through their course of the water in peace and quiet, loving the monotony of its various operations, daily repeated, and who confined their *distraction* to an hour or two of desultory reading, an equal time spent in agreeable conversation, a daily constitutional of a couple of hours, or a ride into the country, an occasional concert, and a not very frequent polka, set off from the spa on their return home, happy and well.

XI.

A DAY AND A NIGHT AT VICHY.

XI.

"C'est une billebaude qui n'est pas agréable," wrote Madame de Sévigné to her daughter from Vichy, one hundred and eighty-three years ago this very month. It is a confusion and disorder enough to stun one; and when one drinks none of the waters "on s'ennuie." "On va à six heures à la fontaine; tout le monde s'y trouve, on boit et l'on fait une forte vilaine mine; car imaginez-vous qu' elles sont bouillantes, et d'un gout de salpêtre fort désagréable. On tourne, on va, on vient, on se promène, on entend la messe, *on rend ses eaux*, on parle confidemment de la manière dont on les rend; il n'est question que de cela jusqu' àmidi: Enfin on dine, après diner on va chez quelqu' un." Such was Vichy in the time of the Grand Monarque, and in the year in which Lewis made Père la Chaise his confessor, and drove his mistress, La Vallière, into a nunnery. Things are much altered at present, and *c'est une autre paire de manches* altogether, since 1820.

In that year, we learn from the engineer of the mines, Berthier, sent to Vichy on professional business, that the number of visitors who had resorted to that place for their health amounted to between five and six hundred, who expended about 150,000 francs between the 15th of May and 15th of October; but from 1853, since which year the greatest changes and improvements have taken place under the management of the Vichy Company, the number of visitors has increased to an average of 10,000, servants not included, who, calculating their probable expenditure during the season at the rate of that of 1820, leave in Vichy the very respectable sum of three millions of French money, or one hundred and twenty thousand pounds sterling—a sum greatly surpassing the presumed expenditure at the most renowned spas in Germany.

I open the "Liste des Etrangers" arrived at Vichy during the last two seasons of 1857 and 1858, in which all visitors are arranged as they arrive in columns, one of which states their name and quality, the other their usual place of residence or native country, while the third indicates their lodging in Vichy; "Logemens," which of course includes all the hotels and *maisons garnies*. The German Kur lists are a great improvement upon this French form, which should be assimilated, to render it more useful for practical reference. In one and the first column of the German lists the consecutive number of arrivals in the place is inserted, no matter of what number the party may consist; next comes the day of arrival of each party; thirdly, their names, titles, quality, and sex, as well as the degree of relationship the several members of the party stand in to one another; fourthly, the number of which the party consists, and

which always includes the servants; and, fifthly, the house they inhabit, designated by the name of the proprietor, or its denomination, if it be an hotel. The French list is deficient and imperfect in information, does not distinguish the domestics from their masters, although at the end of the season, when the list sums up all the arrivals together, it deducts the total number of domestics, which it gives, from that number.

In 1857, the twenty-nine numbers of the published "Liste Officielle," each of which comprises an indefinite period, sometimes of three, sometimes of four, or five, or even more days, gave an aggregate number of 10,334 arrivals, of which 836 were domestics.

Last year thirty-four lists published to the 8th of September, from the 15th of May, showed a total of arrivals equal to 11,918, inclusive of 1,202 domestics. The French lists are again deficient in two other important points, which the list of the principal German spas never neglect. An alphabetical list of names at the end of each month, and a numerical list according to nations. At the great German spas, such as Baden, Wisbaden, or Kissingen, whither flock people from all quarters of the globe, no matter how remote, the latter information is interesting. One can hardly read in the list of nations published at Kissingen, for example, and learn that patients have come thither like ourselves, in search of health, and in number, from the remotest Russian provinces, and the not less distant Australian possessions of England; from the country and capital of Otho of Greece, and the imperial city of Stamboul, as well as from Washington and the back settlements of America; from the Danubian principalities not less than from Mexico and Peru; you feel encouraged and almost proud at being

one of this cosmopolitan galaxy, assembled to quaff a salutary spring, bright, sharp, sparkling, and refreshing, and to know that when you all shall leave the spa to its wonted deserted winter condition, you will be disseminating yourselves all over the habitable globe, living examples of the blessings of health gained by miracle-working springs.

In the absence of this collective and useful national list at Vichy, I ran my eye down the several numbers of the one published to catch the names of the different countries set down against each individual, to judge of the number of foreigners who frequent Vichy, and, amongst them, that of the English. Of the total number of visitors I should calculate (as a Yankee would say) that four-fifths, at least, are natives—true indigenous population. There is no mistaking names like Guillemot, and Vervier, and Givy, and Varage, and Michal, and Chevé, and Verotin, Louvier, Bournadion, et Pitiot—plebeian names, to be sure, but still French. Nor can there be a doubt as to the nationality of such other names as carry a perfume of aristocratic blood with them, such as Dursat de Courcy, De Salis, Labédoyère, De Crozet, De Solerac, De Caunon, De Chavagnac, De Ligondés, De Ginestour, De Barbeziérès, De Chabannes, Sans Chamans, Chautelaux, D'Isly, and so forth—all Counts, Viscounts, or Barons, with a Marquise or two, and a Duchesse. There is among them a "Mme. La Comtesse de Franca et son fils," who arrived on the 20th of June, and went to rest herself and offspring at Barnichon, a *logement engarni*, in the *Rue Lucas*, not the most *distingué* dwelling for a lady bearing so proud an appellation.

"Je ne sçais," says Felix Normand, in his "La

Vie des Eaux," "comment il se fait, mais j'ai rencontré en un mois plus de Comtes et de Marquis à Vichy que je n'en croyais exister sur toute la surface du globe. Pour les Barons et Vicomtes ils sont à remuer à la pelle." This may be true, or mere badinage. The *liste officielle*, certainly is not so heavily laden with titled individuals. Whole columns of rentiers and rentières, proprietaires, negociants, and employés, one after another, may be passed over without the presence of a single aristocratic interpolation; goodly, decent, and charming company, no doubt, but still simple citizens, and not the less estimable for that, or less likely to form an agreeable society for the space of four weeks.

But now for the English. Have there been many in the last two years? We know that our countrymen have only to be told that a particular spa has become the fashion, and thither they will flock with, or without the Doctor's permission. "The bubbles of the Brunnen" took everybody to the source of the Serpents in 1835 and *passim*. The spas of Germany turned the tide towards Kissingen, Wildbad, and Carlsbad; and now Vichy will be the Thule of the sitibund Britishers who like to drink mineral water in good company, and now learn that they are certain to find both in perfection at Vichy. Be it so. If Vichy water shall prove what it professes to be in removing many bodily ailments in an agreeable manner, Vichy will continue to be the fashion, and be proof against its caprices. If its medicinal virtues have been exaggerated or falsely represented, its fate will not be doubtful. Look at home. Where is Cheltenham's—where Leamington's reputation as a watering place gone to? Who ever quotes either as a

spa now-a-days? Gone, gone, never to be resuscitated. Vichy needs not apprehend such a destiny.

But what of the English visitors to that spa? What says the "Liste Officielle?" Now, here I have taken some pains; but no labour, no deciphering, or orthographic labour, I mean, could enable me to master so entangled a subject as the making out the English origin or nationality from a large majority of the names of the inscribed visitors, against whose names I find *Angleterre, Irelande, Londres, Dublin, Ecosse, &c.* Of the total undecipherables some may easily, or with a little stretch of fancy, be guessed as being English, Scotch, or Irish names; but the rest sets at defiance all patience, all ingenuity, all guess-work.

I think we can guess, for example, at what is meant when we see inscribed (I do not say when we read, for that we cannot do) such distorted names as Sir Corbet Ronland Vinceur Bart. (probably Rowland Vincent); Le Genl. Bakeley; or Mons. and Madme. Bishop of Derry; or Lady Staper; or Viscount Sydeney; or Madme. and Mlle. Goff-Gordon, and le Genl. Maclacklan; or even Monsr. and Madme. Schipheard (Shepherd). But I challenge the most inveterate Sanscrit scholar to tell us the nationality of such other names as I find disseminated in various parts of their famous "liste officielle." Mons. Ckeefe; M. Vausuttro professer; Cap. and Mrs. Dacoson; Mr. Aganoor; and Miss Laur with Mlle. Brumby. Then comes Divas Dunter; and Mme. Scritrius; with Mons. and Mad. Emstrulher and children; followed by Monsr. Le Reverend Very Canon Reand, with Mad. Maxcoelle; and Genl. de la Poor Beresland. Is not that sufficient to make my case out? Not so. Here are a few more insertions:—Ivifes, Lihber, Gerder, Clibbom,

Kelsier-Bresier, with Miss Penitope; topped really by such a jaw-splitting name as that of Mons and Madame Ugritschitsche (sic) de Londres;—and so they are all, more or less, set down *de Londres* or *Angleterre*.

Well, then, it is evident that names, alone, would not enable me to make out the total number of English visitors, and so I counted, as such, all those against whom their nationality was marked, and, in this manner, I ascertained that in the season of 1857 there had been 269 English visitors at Vichy, while, in that of 1858, their number was 233, or 36 less; making a total in the two seasons of 502 English visitors, who, taking them in the aggregate, must have been both an agreeable and a profitable addition to the general company of Vichy.

But where can all these goodly people be lodged, and how fed? What sort of life will they have to lead in so thoroughly Gallican a place of residence, with not a single approximation to any of their own national ways, means, comforts, and resources, although all such exist in perfection in Vichy, albeit of French manufacture? Since it is so, let us see what French observers and visitors say on those subjects, and then consult the opinions of a few equally observing English visitors, who have kindly supplied me with the necessary information. We shall then have before us a picture of Vichy spa during the season, by day and by night, the writer of the present notice assuming, for the nonce, the part he certainly did not perform, of one who has shared in, as well as enjoyed, all the ways and doings he is about to describe.

Vichy, exclaims Felix Mornand, is, "sans contredit," the first thermal establishment in France, destined, without doubt, to become one of the first in Europe. I see

no objection to this laudatory beginning. Should the ameliorations, for which the Company have made themselves responsible, continue in earnest as they have commenced—and the French practitioners care not to exaggerate the efficacy of their water, or multiply its applicability—Vichy will not only maintain its present reputation, but conquer an European fame. The influx of visitors from England, with not a few of the high-placed from Russia, is a guarantee of that result. Pity that such an asylum, for invalids of all nations, should be a perfect desert during two-thirds of the year: "Mais en revanche," says Mornand, "les quatre autres mois, Vichy est peuplé et animé comme la Rue de Richelieu—un caravanserai," dedicated "à la France buveuse d'Eau;" an aggregation of people ever increasing, and choking up the hotels, small or great, some of which bring to mind the gigantic edifices of Switzerland and Germany, the true architypes of the houses of reception for tourists.

Lucky is the man or woman either, especially at what is deemed the climax of the season, *videlicet*, in the month of July, if he or she can procure an entry into any of these hostelries, even with the resignation to take whatever hole can be got, be it a *mansarde* or the antechamber to a bath-room, for the time being. Still more fortunate, if the intro-admission has been granted in one of the most fashionable hotels, Guillemin, for instance, or l'Hotel de Paix, the second and third great buildings on the left hand or east side of the park, as you emerge from under the arcade of the Thermal Establishment. Had you taken the precaution of writing for rooms a week or two beforehand, you would not run the risk of having to sleep *à la belle étoile*. But if room cannot be found for you in the house, and you are compelled to take

up your abode in a trumpery lodging near it, until your turn comes to occupy an apartment in the hotel, you may be admitted, at once, to the honour of the table d'hôte; so that, at all events, your stomach is not made to suffer for the sin of your want of foresight.

Now, all this anxiety to be admitted into one of the principal hotels, is less due to eagerness to secure *une excellente cuisine*, than to the desire of obtaining an introduction to the society in the house, which is naturally expected to be of the highest in the place, for *les moyennes classes* trouble themselves little with daily disbursements of ten or twelve francs, for the privilege of being at one of the Hotels Rue Gridaine or Rue du Paris. How the object of social acquaintances is to be obtained, the present writer will not take on his own responsibility to say. He has never been in a position to ascertain the fact—but we have a lively, and we may hope truthful guide in Mons. Felix Mornand, who tells us:—once installed in your *jolie petite chambre*, overlooking a vast garden, or a court shaded by trees, your first care, as a well-bred person, is to deliver a packet of your cards to one of the *garçons de service*, with instructions to leave them at the respective apartments of your "*commensaux*" (a far better term than "fellow lodgers") "en échange de quoi."—I beg my readers to mark this, and not pretend I said it. "L'heure d' après le même garçon vous rapporte quarante ou cinquante noms précieusement gravés sur porcelaine, quelqu'uns illustres, d'autres obscurs, mais exhalant pour la plus part un parfum très—aristocratique."

Being now fairly installed, you have only to take your place, according to spa fashion, at the bottom of the table, until the successive departures of your prede-

cessors bring you slowly to the top or upper division. We shall see in the next section what we have to expect when once seated in the amphitrionic feast. If Brillat-Savarin be not a false aphoristical authority, we should expect to find sociability in perfection at such convivial meetings; for, says he, "la gourmandise est un des principaux liens de la société: c'est elle qui étend graduellement cet esprit de convivialité qui réunit chaque jour les divers états, les fond en un seul tout, anime la conversation, et adoucit les angles de l' inégalité conventionelle." We know something of the truth of this at home. The walls of the Mansion House, of Freemason's Hall, the London Tavern, the Albion, and the Thatched House, not to speak of Blackwall on one memorable occasion every year, could testify to the unalloyed harmony which the "the three courses and a dessert" invariably bring out.

"There are two meals a day," writes to me a correspondent; "breakfast at 10 a.m., and dinner at 5 p.m.; both most substantial, and differing chiefly in there being soup at dinner in place of eggs and omelette at breakfast. All the house guests dine and breakfast together, and are to consider themselves as one family. These meals are taken in the "salle-à-manger." After breakfast, as well as after dinner, the parties adjourn to the "salon," which is the largest room in the house, and is handsomely furnished, with musical instruments, card tables, backgammon boards, and chess tables. There is, even in the largest hotels, but the one sitting room, and no family (however exclusive,) can have a private one. Sometimes a very delicate lady turns a bed-room into a private boudoir for herself; but it is only after a hard struggle that it is obtained. In the same way, having

the terror of an apoplectic seizure before us, we, after a hard fight, had coffee, specially served to us at breakfast, in place of wine and strong meats. Except at breakfast and dinner, however strong the appetite, nothing to eat besides is to be had during the twenty-four hours; and all the world here "goes supperless to bed."

"Il faut être matinal," observes another authority, with the most romantic of names, Hyacinthe Audissed, "Il faut être matinal à Vichy. Dès les premières lueurs de l'aube de gracieux fantômes se glissent légers comme des sylphes dans les mystérieuses allées du Parc qui peu à peu se peuple jusqu' au déjeûner, de promeneurs et de promeneuses dont le *négligé* plus ou moins élégant, fait le sujet des conversations de la fashion, que l'on est toujours certain de rencontrer dans toutes les eaux du monde. Toute cette population exotique d' hommes jeunes et vieux, de femmes ou de jeunes filles pâles et languissantes, qui va d'une source à l'autre, le verre à la main, absorber de quart d'heure en quart d'heure la quantité d'eau qui lui est presentée, forme un spectacle curieux." In the following observation, I chime in heartily: I was disgusted with those I saw, and their "sales mains" washing the glasses! Fie donc! "Il serait plus réjouissant ce spectacle, surtout pour les buveurs, si les dispensatrices des fontaines, au lieu d'être ces femmes vieilles et laides que vous voyez, étaient metamorphosées en jeunes et fraîches Bourbonnaises, à la taille fine, au gracieux sourire et dont le chapeau si coquet est le moindre ornement."

These several glasses of water and the bath have to be disposed of so as to allow half an hour's time *to dress* before the ten o'clock breakfast, which is an-

nounced simultaneously at that hour by the bells of all the hotels ringing welcome chimes to the craving promenaders. The dressing gown and *négligés* of the bath then disappear, and smart morning dresses, suitable either for entering the saloon of the hotel, there to read the papers after breakfast (the only English one being Galignani's), talk of the weather, discuss fashions, laces, and crinolines, and do a little scandal; or else prepare, by the addition to the toilette of a light capote close in to the waist, and a coquettish head gear, to mount a *bourrique*, and join a cavalcade for country excursions. Some wend their way to the Chateau de Randan to see Louis Philippe's bed-room as he left it, or wander through its handsome park or vast forest. Others visit Bourbon Basset, a fine old place, giving the title of Count to an offspring of the Bourbons; or Chateldon, a charming old tumble-down village; exquisite for Prout or the photographers. To the *Ardoisière* and its caverns, or to that sinister hill the *Malavaux*, not many are fond of paying their respects. Shorter excursions, the ladies still on donkeys, the gents attending on foot, are made to Cusset and the banks of the Sichen, to the intermittent spring across the new bridge, or, lastly, to the springs of Hauterive.

To that portion of the company which remains at home, the arrival of the liste officielle just published affords food for a chat, and I am not sure that, in their more confidential whispers, the conversation does not take the turn Madame de Sévigné told us, at the beginning of this section, it used to take in her time about "rende les eaux," &c.

A second *grande toilette* occupies the ladies for an hour before dinner, which, as before stated, is punctually at

5 p.m.; the bells of all the hotels again sounding to mark the event with wonderful unanimity. Heavy work this identical dinner is. "On mange trop et trop vite," says Felix, "il semble qu' on soit sur un radeau de la *Méduse*. La nourriture est peu recherchée, peu varieé, mais abondante." Perhaps Mons. Felix libels the cuisine de Vichy, for one of my own patients tells me that there are "endless dishes, well dressed, with fair wine, followed by a dessert, "dont les assiettes," adds another, "sont nombreuses comme en un repas de noces." It is near 7 o'clock when the table is deserted. Some then have coffee, and some a glass of the water de l'Hôpital "en guise de café." At 8 o'clock the Assembly Room, preceded by a short stroll in the park. In hot weather the ladies take their work into the park, and, seated round a table under the trees, chat or read. Not unfrequently the calm hours of a serene or close evening are passed in this manner, a large number of the ladies possessing themselves of the seats.

As additional means of killing time by day, there is a shooting gallery behind the old Capuchin convent, and a circulating library, not over well stocked even with French books. Visiting and billiards take off some of the heavy hours between breakfast and dinner; and, as there is not, as at Kissingen, an evening promenade and water drinking, the real spa day work, especially for those who bathe with "les lueurs de l'aube," ends with the breakfast. It is well, therefore, that provision has been made for a succession of other occupations or amusements, else, how to pass ten hours from breakfast time to the hour of assembling in the Great Etablissement at 8 in the evening, would puzzle many. Luckily, the French can turn every thing to jollity and fun; else

"il y aurait à mourir d'ennui," as Madame de Sévigné herself said in days of yore.

We have seen what this Great Etablissement is on the Rez de Chaussé in one of the earliest sections. The reader may now accompany me to the first or principal floor, *L'Étage noble*, as the French would style it in a palace. And thus far, the suite of apartments on this floor may vie with some of the palaces one meets in not a few of the tiny domains of mediatized and Serene Highnesses in Germany. It is past eight o'clock, still full daylight abroad, but all the gay company have, group by group and one by one, slowly quitted the humid atmosphere of the park alleys, and taken shelter up the grand staircase, into the old and new apartments, constituting what we should call the assembly rooms. Here, principally, the Vichy visitors pass their *prima sera* on ordinary occasions, or spend the whole night when concerts and balls take place. The old galleries and saloons having been found insufficient for the numerous visitors who flocked to the Etablissement on any extra occasion, new ones, and a central rotunda of vast dimensions, were erected. As at Carlsbad, Vichy has a Strauss, and with him a choice band of performers, who enliven the assembly rooms under the magic *archet* of their leader and composer. But the Vichy Strauss is a French subject, being a native of Strasburg, and no connection with the Vienna Strauss, equally, but not a bit more famous, than his Vichy homonyme. Strauss is the *directeur* of the Salons de l'Etablissement Thermal, by royal once, and now by imperial appointment. By the side of the saloons there is a reading-room and a billiard-room, and several other rooms, in the midst of which rises the new and elegant rotunda, built since

Strauss's empire. This rotunda, rich in mirrors and gilt cornices, and allegorical frescoes, serves as a ball room, and occasionally as a theatre or a concert room. "C'est là qu' à la lueur étincelante des bougies aux accords d'une musique enchanteresse se donne rendez-vous l'élite de cette société cosmopolite qui est toute étonnée de s'y trouver réunie. A voir cette enceinte circulaire garnie de femmes éblouissantes de beauté et de parure, vous diriez une immense corbeille de fleurs animées, dont les calices entre-ouverts par le souffle voluptueux du plaisir, laissent échapper leurs parfum les plus enivrants." We can forgive a little poetry in prose to a writer like Mons. Hyacinthe Audissed, whose enthusiasm, I suspect, was won from his pen by a pair of dazzling black eyes, the brunette owner of which distinguished the spirituel fellow-water-drinker from among the rest in this very rotunda, and bestowed upon him the lawful possession of those precious orbits.

It is due to Vichy society to state, that, from all I have heard, from most competent and trustworthy observers, the company one meets, wandering, seated, playing or listening to music, or polking (and there is not a more polking society in France than at Vichy) is of the most unexceptionable class—indeed classes, since the highest mingle on equal and courteous footing with the middle ones. No mother need scruple to be accompanied by her daughters, either on public or private occasions, in these assembly rooms. The suppression of gambling tables in France has produced this result, that suspicious company, whether of ladies or chevaliers *des Lansquenet*, or down right Greeks, would not thrive at a watering place, and hence are not to be found in such localities now-a-days. If you have a care to witness the

reverse of this happy state of things, you need only repair to Homburg, where you may chance to see, and not rarely either, at the dinner of five o'clock, an English peer, his lady, and daughters, quietly taking their seats at the table d'hôte (while the company is flocking in from the gardens), suddenly flanked by some coxcomb from the same country, who has picked up a notorious *fille de plâtre* at Paris, when on his way to Homburg, for his convenient *compagne de voyage*, and is not ashamed to produce her every where!

Here, at Vichy, no such danger can be incurred by the respectables, and hence comes it that in such a public place as the one we are now parading in, not less than in all the best and principal hotels, the society assembled consists of individuals worthy of each other. That it is so more or less is illustrated by another of the usual practices among the principal visitors at Vichy, namely, that at parting at the close of the cure, a wonderful exchange of cards takes place with those who have formed any acquaintances they desire to keep up, should they meet elsewhere. It is evident that most of the enjoyments of such a place depend upon the *luck* which brings together people likely to suit each other.

But every one does not frequent the Assembly Rooms. Whist and music at home in some of the hotels, offer a very pleasant variety to those who do not choose to go abroad. "At one time," says one of my correspondents, "we had at Givors-Prêtre, such very good music, and sociable people, that few were from home in the evening, which had the appearance, on such nights, of a private party, and the windows, outside, were filled with all the varieties of the 'Paul Pry' tribe. You know, no doubt, that the season begins in May and ends in September.

— The fullest time July and middle of August. The last week in that month the tables thin, shorten, and the company becomes small and select; and when Strauss and his troop go, the windows of the hotels are almost all blocked up with wood, so to remain until near May, when painters, and washing and scraping begins again, and Strauss, like an *hirondelle*, returns again. While the days are long, the young, the gay, and the flirting, start off on donkey parties, and take coffee at some of the villages or hills round about, and return with histories of their adventures, more or less true; they pay their bourriques or rossinantes according to a tariff; but if they employ one of the carriages of the hotel (and every hotel has them), the same and servants are paid for by special arrangement."

"Sometimes the party may chance to light upon a gathering of village lasses, engaged in their national dance, the 'bourée,' which charmed so much the fair correspondent of Madame de Grignan;—it is the favorite dance of the *Bourbonnais*, quick, shuffling, stamping, and (on the authority of a good judge) not unlike an Irish jig, but danced with rather less *spirit*. On a Sunday afternoon the people occasionally dance it in a quiet corner near the Etablissement. It is seen more frequently and more to advantage on fête days at some of the neighbouring villages."

It is long since we lost sight of my good-natured conductor, Dr. Barthez. What share does he, or any of his brethren bear in this nightly or daily "double, double, toil and trouble" of Vichy? I inquired of him: Do you visit your patients daily? are you often called up at night to some nervous or half-frightened invalid, who wakes up from a night-mare, or with a dreamy beating

at the heart? Do you walk as the German *Esculapii* do at their spas, amidst water drinkers, listening to their litanies, and begging for instructions?" "Le bon Dieu m'en garde," answered the Doctor, "I should have nothing else to do, and could not get through the half of my real work, were I to encourage any such bad practices. Patients abroad would lay hold of me by the button, *entre deux sources*, and pin me to the spot longer than I cared for, or the interrogator could profit by. No: any stranger who, on arrival, calls to consult me, receives my opinion on his case, and directions how it's to be treated —and is told that, whenever it suits him, or he feels it necessary or desirable to have further advice, he has but to attend, like the rest of the patients, at a stated hour, at my "Cabinet de consultation." This differs so much from the practice I have established during the season I pass in Kissingen with my patients, with whom I keep up a daily intercourse during the four weeks of the treatment, and mark, in a tiny diary, left with the patient, in abbreviated phrases, the existing features of the case— its progress and variations, together with directions for the ensuing 24 hours—(a practice deemed very satisfactory to the patients)—that I was induced to apply to one of them, a gentleman who had been for two seasons at Vichy, and came afterwards to Kissingen, to give me his opinion respecting the French mode of attendance, as contrasted with the one last described. His answer I give in his own words, premising that this same gentleman was under the care of one of the most esteemed practitioners at Vichy, and that he had also formed and expressed a high opinion of the abilities of one or two others of the Vichy physicians. He was, therefore, an unprejudiced and impartial witness to exa-

mine. "The intercourse between patient and physician," he says, "at Vichy, is not all satisfactory. On going there, the first visit must be paid to the doctor; for, without his written directions, tickets for the baths are not given. At that visit he hears the symptoms, &c., &c., detailed, which, after the foreign fashion, (not foreign, if you please, for most of us do the same in England, and not a bad one) he enters in his book, with name, age, &c. of the consultant. Having in his mind decided the suitable treatment, he writes his order to the *entrepreneur* of the baths, prescribing the number to be taken in the week, the proper temperature, strength of the water, and so forth, not forgetting to name the spring to be selected for drinking, *Grande Grille*, *Hôpital*, *Celestins*, &c., with the quantity of water to be drunk. Armed with this, the patient starts, (having been told the hour at which the Doctor receives visitors, with an invitation to come whenever he wishes for advice,) and presents his mem. at the Bath Establishment. There he again gives his name, country, age, selects a vacant hour for his bath, No. so and so, and takes his dozen tickets. Each bath occupies an hour, and the best and pleasantest time to take it is before breakfast, having previously drunk one or two of the prescribed glasses of water. Sir Philip Crampton told me whilst at Vichy, where he went for the gout, a fact I have read also in some French work, that so strong is the alkaline power of the water, that if, on going into the bath, the contents of the bladder happen to be *perfectly acid*, they would be completely neutralized before the hour had expired. The quantity of mineral water to be admitted into the bath is also regulated by the Doctor's order, and the cock which supplies that water is fastened, so that the patient

can only add the *eau douce* if he wishes to keep up the temperature of the bath."

Between eleven and one o'clock is the time which the Doctors generally name for seeing their visitors, with whom the ante-room is generally pretty well filled, and an observer, in the dead silence which is obligedly kept, has no resource but to study the countenance of his fellow-sufferers, guess at their maladies, histories, and liaisons. But mayhap he has a donkey party on foot, and the time for starting on it has fully come. Perceiving, to his dismay, that many more are in the queue before him, he determines to bolt, and so puts off "the evil hour" to another day. It often happens thus that a patient having no *acute disorder* to *force* a visit to the Doctor during his stay, puts an end to his course with only one or two calls on his medical adviser. The payment is at the end of the course, as at Kissingen, and varies according to each case. The French give two, three gold pieces—the English four, five, or more. The hotel-keepers advise, and often take charge of the fees.

It is a sight I have not beheld at any of the spas I am most familiar with, that of the numerous clergy of all degrees, who crowd Vichy during the season. The Convent is the resort of a lot of bishops and priests and religieuses, invalided; and the nuns amuse themselves in making "pastilles de Vichy," soda lozenges, and "sucre d'orge" de Vichy—the two grand manufactures of the place. These saintly ladies have numerous rivals; but they claim the pre-eminence. I can testify to the exquisiteness of their *sucre d'orge,* an excellent "cough-no-more" remedy.

Methinks I have pretty well disposed of the day and its various occupations—nor have the pleasures of the

night been neglected. Yet Strauss might complain, were I not to try and make English visitors at Vichy as well acquainted, as all French visitors are, with the great share he has had in making the place so gay and so animated at night.

Not many years ago the rooms of the establishment were nearly deserted. As soon as Strauss undertook the management, joyous crowds soon flocked where a few sulky stragglers only used to linger away their idle hours. A card-room; another for the daily papers; a *salon* for the ladies; a billiard-room; and a long gallery opening on the garden front, which served as a ball-room; these formed the whole ensemble of the attractions of the Etablissement. But they soon became insufficient, and Strauss at once undertook to remedy the defect, by throwing open into the interior building, from the centre of the great gallery, now used only as a lounging place, new saloons which may be used either collectively or separately, by means of moveable screens. All these rooms are connected by a vast central rotunda, serving either as a ball or a concert-room—behind which a library has been established, and a gallery of pictures and objects of art, permanently on view and for sale, forming considerable attraction.

So important an extension of the accommodations of the Etablissement obliged Strauss to augment in proportion the number of his performers, who, from six or eight, are now become fifteen or twenty. His orchestra is not confined to instrumental music only for balls, but serves to accompany some of the artistes from the Paris theatres, who visit Vichy on a professional excursion. There is a Madame Cambardi, from the theatre Italien; M. and Mme. Meillet, from the Théâtre Lyrique, and a

comic singer, a buffo in fact, called Müller. Surely the instrumental performances must be irreproachable, with Bernardin as first violin, and Viereck as violoncello. The flute is played by Jules Sernon, and the two cornet-a-pistons, those animating instruments in a ball room, by Delpecta and Vaquez.

"Every one knows," says Felix Mornand, "this marvellous orchestra for dancing, which co-operates with others every winter in making 'polker *tout Paris*.'" All the world can sing Strauss's waltzes from having danced them a hundred times. His reputation as a performer is not greater than as a composer. "Soit comme musicien, soit comme *impresario*, Strauss a bien mérité de Vichy."

The assembly rooms are open every day during the season, and from eight till ten o'clock at night. Strauss's orchestra plays concerted or single pieces. There is a *grand bal* every Monday and Thursday, and Tuesday evening in each week is reserved for private balls or concerts. The subscription for the season is 20 francs; for husband and wife, 30 francs, and children under twelve years of age, 10 francs.

I shall terminate this saltatorial digression in a volume of such serious importance on the regaining of health, by a further quotation from the last named writer, respecting the consequences that have inevitably ensued from Strauss's success, as it completes, very appropriately, my description of a Day and Night at Vichy. "The necessary result of these orchestral improvements and other ameliorations in the Saloon of the Establishment, has been to "doubler l'ardeur de la danse, la frénésie de plaisir qui possèdent cette réunion maladive et aristocratique qu'on nomme les baigneurs de Vichy." Strauss

and Cellarius, who within the last few years have established their summer head quarters in this veritable capital of the Bourbonnais, have opened a course of Mazurka and Valse, assiduously frequented *par les grandes dames* and *les gentilhommes buveurs d'eau;* not without some misgiving on the part of the doctors, my friend, Dr. Barthez, always excepted, who, on the contrary, strongly recommends Thalia's exercise to his patients. "Ainsi chaque jour de nouveaux bals s'organisent-ils par souscription dans les quatre, ou cinq grands hôtels qui se partagent l'élite des baigneurs." Well may the writer of this passage exclaim, "How can this system of vigils and daily fatigue reconcile itself with the imperious obligation of being up with the lark?"

Surely enough has been set forth of temptation in this section to induce invalids, who abhor melancholy or dulness in a watering place, to visit Vichy, should their case require the use of its waters and baths. But Mons. Barthez (evidently and shrewdly with an eye to the fairer portion of the invalid community, whose good wishes and opinion he would wish to monopolize,) has added, with a *naiveté* perfectly primeval, another and a *final* allurement, which may possibly be considered by the ladies as Vichy's highest recommendation, and which I shall repeat in his own vernacular idiom :—

"Des personnes qui recherchent les eaux dans le but d'étendre leur relations sociales doivent se rendre particulièrement à Vichy; c'est là, en effet, que l'on rencontre la bonne compagnie, et les plaisirs qu'on-y-trouve font naître tous les ans des mariages imprévus, ou des affections qu'on dit être constantes." How French!

XII.

ACCOMMODATION, HOTELS, EXPENSE OF LIVING, PUBLIC AMUSEMENTS, AND COUNTRY EXCURSIONS.

XII.

Judging from the report of English patients who visited Vichy a few years before its establishments were placed by the Government into the keeping of a private company—and when it was not quite the fashion for people from this country to be sent thither—Vichy must have made great strides since, towards possessing first-rate accommodation for the numerous invalids of the highest class, who flock to that spa from every part of France, to the number of between nine and ten thousand during the seasons of 1857 and 1858, not including the domestics; as well as from Russia and England, which supply their two and three hundred invalids each—and from Holland also, Belgium, Switzerland, and Italy, in smaller numbers, and all of them of the middle and higher classes.

There were in 1851 six superior hotels and thirteen others, in three or four central streets, adjoining the sources. Their names arranged in the order of their

importance and higher prices, were the hotels Guillemin; Paris; Velay; Givois-Prêtre; Montaret; Burnol. These are all located in the *Rue des Thermes,* since named Rue Cunin-Gridaine, in honor of the minister of that name, to whom Vichy is indebted for many embellishments and ameliorations. It is by far the most agreeable locality for an hotel, ranging along the eastern side of the park. Next we have Hotel Chaloin, in the Rue Lucas; Europe; Paput; Rouen; Celestin, in the Rue des Nismes; Grenet; and Charles, Rue de l'Hôpital; whilst in the Rue de Paris, and Rue de Ballore, somewhat farther from the sources, are the Hotels Dubessay, at which I lodged, and was perfectly satisfied; Rhône; De la Suisse; Côte d'Or, and Maussant. But now, establishments of equal, if not higher pretensions, have started up, and line the western side of the park, and other adjoining streets of recent construction. In these will be found always the best company, or *la haute voleé.* I shall name them alphabetically for the convenience of my readers.

Hotel des Ambassadeurs; des Bains; de Beaujolais; de Bordeaux; Du Centre; de Londres; de Louvre; de Lyon; d'Orléans; d'Orient; de la Paix; des Princes; de Rome; de Suède; Pavillon de Sévigné; des Thermes; de l'Univers.

At all these Hotels, or nearly so, there is a table d'hôte at a stated hour for both the déjeûner and dinner, the other repasts being allowed in one's own apartment. It is customary to arrange with the proprietor for board and lodging at so much per diem, the price depending, of course, on the number as well as description of the apartments to be occupied. Inquiry at several of the before-named establishments leads one to think that from 8 to 12 francs per diem, besides the half a franc per day

pour le service, would be the expense incurred. I am assured by a very good authority—a gentleman keeping a capital table himself, and occupying a first-rate house in London, who spent three weeks at Vichy in one of the principal hotels—that the fare is of the best, such as French people alone understand how to supply, indeed, a great deal too good; a perfect realisation of Brillat-Savarin, whose *principes du goût* and gastronomic advice might well be urged on the notice of the water bibbers with advantage.

With regard to the board and lodging houses, or *maisons garnies*, their number is legion. The streets to be preferred by invalids in search of such accommodation should be those which are in the nearest proximity to the sources, and the great Thermal Establishment. There are six or seven of that number. The nearest are Rue Lucas, Rue des Thermes or Cunin-Gridaine, Rue du Parc; next, the Rue de Paris, Rue de Ballore, Route de Nismes, Rue de l'Hôpital, Place Rosalie, Rue d'Allier, Rue du Pont; and, finally, Place de la Mairie, in which are situated the apartments formerly occupied by Madme. de Sévigné, who, as was before observed, wrote some of her charming letters from this not very inviting locality, as well as the room once inhabited by a far greater writer, Lamartine.

As all these *maisons garnies*, the prices of which vary from the most moderate down to the most modest sum, are decently furnished, they are chiefly occupied by families who wish to live quietly or retired, and cannot afford the expense or bear the bustle of first or second rate hotels. The servants of the house are at the disposal of the tenants, to do for them and cook their victuals according to their tastes or means and the directions of

the medical adviser; for here, as at most watering-places, the medical counsellors interfere with their authority in the culinary selections of their patients, though not always with the expectation of being obeyed.

As my experience in the matter of hotels at Vichy can be but limited,—my information respecting their different degrees of merit being obtained at second-hand,—I avail myself of some correspondence with two or three English patients who have visited Vichy during one or two seasons, for the benefit of their health—and shall allow them to speak practically, as well as authoritatively, (seeing the class of society to which they belong,) on the subject of living at hotels at that spa, and the amusements it offers to its visitors.

One of them remarks—"I have rarely met with a place which is supplied with such sources of reasonable amusement and recreation, combined with very comfortable accommodation. The prices vary from seven to fourteen francs per day. The large hotels, which command a view of the Park (Rue du Thermes and Rue du Parc, east and west), are the most expensive; but the apartments are good, and the table d'hôte exceedingly well appointed. It is not usual to have private sitting-rooms (except at Guillermin), as each hotel has a large salon in which the company assembles, &c." "In speaking of the comforts of hotels, of course, I must be governed by my own experience; and having lodged for several weeks at the *Hôtel de la Paix*, I cannot speak too highly of the general excellence of the establishment and the obliging conduct of Mons. and Madme. Laurat Brisson, its proprietors At the same time, it is due to state, that the *habitués* of other hotels have spoken to me in high terms of the persons and houses in which

they have been domiciled. You are, no doubt, aware that, during the season, not less than from 16 to 18,000 persons come to Vichy." This, by-the-bye, is an error of my correspondent, as the official lists now before me, for 1857 and 1858, give the following totals of visitors for those seasons—10,334 and 11,918, inclusive of 836 and 1,202 servants. The writer then proceeds—"As the extraordinary virtues of the waters, the good tone of society which is met with, the picturesque environs of Vichy, and the points of interest which the surrounding country offers, become more generally known, it is certain that the number of visitors will be progressively increased."

Another of my correspondents is even fuller and not less eulogistic in these matters. I have had occasion already to quote him in the preceding section but one. In this place I will add that, in reference to bedrooms, he states, "the beds (single French) to be clean, tolerably furnished with toilet appliances, writing table, easy chair, &c. In 1854 the prices were eight and ten francs a day for each adult (including board), and the choice of such rooms as happen to be vacant at the time of arrival. I believe last year (1858) twelve to fourteen francs a day was the usual charge." This is the old *crescendo* dodge at all the spas, continental or otherwise, as they augment in reputation, Kissingen, to wit. "The chief hotels are Guillermin, frequented by the English, large, and in 1854 (my year of residence) *not* well kept. Hôtel de Paris (the French house), good society and cookery, but small. Givois-prêtre, well kept, civil people, good cookery and attendance, clean and respectable, society good and of different countries. The house was recommended to us strongly; we liked it, and were fortunate

each time to find an agreeable company in the house. This, I believe, embraces all that I can say in the way of accommodation, and indeed of comforts. The food is very good, but, as all acids are strictly prohibited, salads, fruits, &c., are never to be found in the *menu*."

To the preceding information I may add my own short experience, assuming, that what I noticed and befel me in this respect for a couple of days, may be taken as the routine fashion of the house. Mine was the Hotel Dubessay, in the Rue de Paris, a long wide street through which I approached or entered modern Vichy. Its proximity to the Grand Etablissement is an advantage. The house represents what one meets as an hotel at Calais or Boulogne, in this case looking more like a private house of two stories, with not many, and these small, bedrooms. It possesses a saloon, of moderate dimensions, on the ground floor, and a grande salle à manger at the back in a garden, to which you descend by several steps to proceed to your repasts, at 10 a.m. and 11 p.m.

I find the following notes in my travelling journal :— "Almost every house in this street is an hotel, or has the name of one, inscribed in large letters, on the top front of it. Mine is supposed to be a crack one (a mistake, as I found, on going round to the larger and more important establishments). My room on the first floor front, No. 2, is about 20 feet by 12 ; in fact, a cottage-sized room. The furniture very homely ; a good and wide bed, a small table, and a night ditto, a washing-stand, about 2 feet 18 inches, to which is attached a little round looking-glass ; a chest of drawers, two straw chairs, the usual Utrecht velvet *fauteuil* of all sleeping rooms in French hotels, and a piece of carpet by the bedside, complete the *ameublement* of my modest apart-

ment. There are muslin curtains to the window inside, and jalousies outside, to shelter you from the glaring noon-day. I can speak with *connaissance de cause* of the sort of repast one is likely to make at 10 o'clock in these class of hotels, from the one prepared for me, *sans mot d'ordre* on my part, as soon as I returned from my first tour through the town, and visited the sources: a potage, three sorts of meat inclusive of a roast capon (!), pastry; fromage, strawberries, peaches, with attendant sugar, magnificent grapes, *pain à discretion* excellent, l'absinthe, besides a bottle of the most agreeable sound capital red wine called *Bourgeolais*, with a colour like ruby, and a taste between Bordeaux and Bourgogne, being, in fact, a wine nearly connected with the wines of the last-named region. It comes from about twenty leagues distance, and, I understand, can be bought for 80 francs the *tonneau* from the *vignerons*. It would make a great impression in this country as a first-class *vin ordinaire*—a true *vino di pasto*, as the Italians shrewdly denominate such wines as one drinks by tumblers—and might be imported, all expenses of purchase, transport, and duty defrayed, at one shilling a bottle. There is a chance for a speculator, and he is welcome to this recommendation.

I remember the effect which a similar eulogium on my part, of a delicious wine I drank at Schlangenbad in 1836, called *Rauenthaler Damen Wein*, had on its sale for many subsequent years, as the proprietor has repeatedly assured me since.* The demand chiefly from England and Russia, became so extensive that the vineyard being but a small one, wine of other districts

* See Spas of of Germany, 2nd edition, p. 454.

were at length substituted, and so the reputation of the original wine waxed faint, and became nigh extinguished. But the true and genuine *Rauenthaler* survives yet, to gladden the stomach of the visitor to the Nassau spas. Like that wine, the *Bourgeolais*, though differing in colour, fully deserves the same panegyric. "Its juice is delicate; it has a body which warms and cheers the very heart, it runs as smooth as oil, and acid temperament it has none. The colour of it is that of the richest ruby, and the fragrance that of a flowery grove. So, *vive le Bourgeolais.*" And how much my readers opine was the damage for all this unexpected though not unwelcome feasting? Just three francs *cinquante centimes;* not a fraction more!

But, *tréve à la gourmandise*—a name which, coupled with another to be met with universally at these places, *coquetterie*—the French boast of being "toutes deux d'origine Française," and what is more *untranslateable.*

We have seen, in a preceding section, how the people amuse themselves, or try to kill time, the rest of the day, after having despatched what is *de rigueur* as regards water drinking and water bathing; what is *une nécessité*, as regards eating; and what is *de convenance*, with regard to the exchange of visits, without quitting the confines of the town. Let us next cast a look to the environs of the town, and point out the spots within a moderate distance, to which visitors are directed or recommended to extend their walking, or carriage, or riding excursions.

The shortness of my visit would only permit me to extend my walk to the borders of the Sichen, the small river on which Cusset is seated. That river presents, a little above the town, a picturesque gorge, which parties

of pleasure from Vichy delight in daily frequenting, as offering a pretty sinuous valley, umbraged by large walnut trees. Here bluff porphyries jut out through verdant slopes, which Sir Roderic Murchison, in his able exploration of this environ of Vichy, tells us are red, pink, and of grey colours. In some of these porphyries, there are to be seen crystals of felspar as large as those recorded amongst the porphyries of Norway by Von Buet. From this spot many pedestrians extend their little excursions to the slate quarries in Ardisiere.

There is no people like the French for practising the art of "sçavoir vivre," although but slenderly initiated in the *comforts* of life, albeit they have adopted the term. But in the art of living they are supreme. Now, for example, in this very item of one of the pleasures of life—airing in a carriage. At all other spas, when you have made up your mind to take one, you have to send about to the different stable establishments, or stands of hackney vehicles, where such exist, or bespeak them some hours, or the day before, subject to all sorts of disappointments liable in all matters which do not comport certainty. But here in Vichy no such puzzles or uncertainty occur. One or two-horse carriages, donkeys (here, *bourriques*, or baudets), saddle-horses drive up to the doors of the hotel, and solicit custom. You have only to make up your mind at any moment, give notice to proceed to any moderately distant sight or place, and your means of conveyance is ready at hand. You have only to enter or to mount. Even to the Casino, a sort of Cremorne Garden, you may be conveyed in half an hour by the omnibus that calls for you.

I have alluded in a preceding section to the names of some of the places to which visitors more generally

resort in their country excursions. *Randan* stands first on the list. A *spirituel* writer on Vichy, alluding to this chateau, distant about a couple of hours from the spa, calls it, "La promenade indispensable; obligée de tout buveur d'eau de Vichy qui se respecte. Ne dîtes pas que vous êtes allé à Vichy si vous n'avez pas visité Randan:" you would be laughed at, and, what is worse, you would be looked upon as a "*Cretin*." Assuredly none of my readers going along with me through Vichy would like to be called such an ugly name, and they would rather proceed to Randan. The excursion will only increase a trifle the consumption of the good things at the *table d'hôte* of five o'clock on their return.

The road to Randan is not very interesting. After crossing the river, it takes a turn to the left, and, ascending a hilly and wooded tract, reaches the village of that name, which, within the last few years, has felt the beneficial influence of a neighbourhood to a popular watering-place, presenting now an air of *aisance* and comfort to which it had been a stranger before, owing chiefly to the many vicissitudes of state politics, plundering, and malversation.

The Château is a comparatively modern creation as it now stands; for traces of an older one, which had itself been erected on the ruins of a convent of Benedictine monks, built about the year 540, during the lifetime of Saint Benedict, the founder of that order, were still visible in 1852. About the middle of the 15th century the monastery was visited by Saint Bruno himself, a founder of a monkish order, the Carthusians. On seeing the name of that pious monk, my readers will readily bring to their recollection that magnificent series of paintings by *Le Sueur* representing the *fasti* of the

saint, and the triumphs of the French school of his time, which adorn the great gallery of the Louvre.

Access to the Château, which with its two round towers, terraces, and galleries, presents an imposing building, is had through a long and wide avenue of double rows of orange and laurel trees, with flowery bushes of all kinds, and this leads to the gate of the *Cour d'honneur*, closed by a magnificent grille, richly gilt. Crossing the vestibule, we enter the waiting-room, of moderate size, which has been converted into a species of museum. Spite of the careful removal of all the portraits from the walls which represented the princes of the Orleans family, the last proprietors or occupiers of this domain, there is an air of royalty about the disposition of the rooms and meubles; but still more, there are the traditions, which your conductor reminds you of, appertaining to that fallen dynasty—that it is impossible to go through the usual tiresome process of walking from one room into another, to which all sight-seeers are condemned, without feeling deeply interested. The Chateau at present is in the possession of the Duc de Galiéra.

The interior is further remarkable for the decorations of its rich paintings. After having passed the grand *salon de famille*, the library, and the *chambre du Roi*, the visitor enters upon a terrace which leads to the chapel, where his attention will be arrested by a picture of considerable merit, both as a work of art and a historic record of interest. The subject is the Martyrdom of St. Dorothea, and the personages who served as models for the principal figures were Madame de Genlis and her three pupils, Louis Philippe, then twelve years old, and his two brothers.

Most of the apartments are stuccoed, in imitation of variously colored marbles, ornamented with arabesque paintings in panels, as well as over the ceilings.

There is an extensive park *de toute beauté*, as my friend the Doctor says, and says justly, for those who love still alleys of trees and hedges, mixed with a more picturesque variety of ground, distant views, and a sprinkling of *petites chaumières et cabinets rustiques*. The woods by which it is surrounded are immense, and of great value, they add considerably to the prestige of this shew place, deemed the great lion of the lions of Vichy.

The recollection of the good Madame Adelaide d'Orleans, sister of Louis Philippe, which this domain suggests, is further strengthened by extending our excursion half-an-hour more to the *Rendez-vous de Chasse*, erected by her for the amusement of her nephews, in the style of a gothic castle. The driver will recommend it to your notice under the name of Château de Maumont.

But there is no end to the *châteaux*, if the visitor dislikes the style of the one he has seen, another day's excursion, and somewhat more distant, will bring him to another of a different structure and style. The Château d'Effiat is one such. But here, instead of the pale reminiscences of mere domestic misfortunes affecting private houses of modern date, we have suggested to us by the name of the Maréchal d'Effiat, which the château bears, the stirring times of Richelieu and his victim, the proud-hearted Cinq Mars, son of d'Effiat, who is himself interesting to Englishmen, as having been the negociator employed to bring about the marriage of our first Charles with Henrietta of France. I will not do the injustice to my readers to suppose that that they have not perused that most charming historic romance of Alfred de Vigny,

in which the conspiracy of the son of the maréchal, for which he forfeited his life in 1642, is so tersely, eloquently, and feelingly narrated.

In the château some of the rooms, even the bed on which the maréchal reposed more than two centuries since, are shown to the visitors, and truly it is surprising how well they are preserved. The maréchal was buried at Effiat, whose château has another claim to the notice of English visitors, as it became at one epoch the property of the notorious South Sea Bubble man, wrongly named financier Law.

To those who are not satiated with this sort of sight-seeing, there are at their service again the château de Busset, an hour and three-quarters distant, that of Charmeil at a little more than half of that distance. In allusion to the former of the two last named châteaux, my kind mentor, Dr. Barthez, thus expresses himself:—"De loin ce château offre une perspective d'une étendue admirable, et le panorama qui se présente à l'horizon lorsqu'on est arrivé sur les lieux, forme le tableau le plus ravissant et le plus varié des environs de Vichy."

And truly so, when it is stated that from that elevated position the eye easily catches and rests on the elegantly light suspension bridge de Ris, over the Allier, the Château de Maumont, once before mentioned, the entire extent of the Limagne, and farther the cathedral of Clermont, the Puy-de-Dôme, the Mont Doré, with the snake-like undulations of the Allier to diversify the landscape. But should natural beauties and prospects of this latter sort be preferable objects of attraction, the spa visitor will direct his steps, or his equipage, or his *bourriques*, to the *Montagne Verte*, on the highest plateau of which, surrounded by vineyards, the view extends

de la manière la plus ravissante, over the whole valley or bason of Vichy ; or again, to the Côte Saint Amand, one of the most frequented promenades—or to the *Ardoisière*, one of the pleasantest walks, just beyond Cusset, mentioned in the sixth Section—or lastly, to the *Allée des Dames* already alluded to in the same section.

In fact, although Vichy itself is neither a town spa nor a country spa precisely, according to my definition of these two distinct classes of watering places, it possesses in its immediate neighbourhood, as well as at very moderate distances, county resources which leave nothing to be desired.

XIII.

PREPARATION OF THE BICARBONATE OF SODA, OR VICHY SALTS.—VICHY PASTILES.—BOTTLING AND EXPORT OF THE WATERS.—DEPÔT FOR THE SALE OF THEM IN LONDON.

XIII.

According to the estimate published by Mons. Bouquet, the total amount of mineral water brought to the surface by the different sources of Vichy and its neighbourhood, is sixty-two millions and fifty thousand gallons annually, which yield a produce of solid matter equal to 3,401,240 pounds in weight, of which quantity 2,244,750 pounds are bicarbonate of soda. This quantity of mineral water is accompanied by an escape of free carbonic acid equal to 2,279,790 pounds, representing six hundred and twenty-one thousand seven hundred and sixty pounds of pure carbon.

Almost the whole of this quantity of mineral substances is washed into the Allier, or others of the neighbouring rivers, the carbonic acid gas alone being set free during the solution of the solid substances in the water. This quantity of carbonic acid mingles with the atmosphere, and goes to the alimentation of vegetable life.

The portion not wasted is that which, by the process

of evaporation, carried on in appropriate buildings in Vichy, near the Great Establishment, is obtained under the form of *Vichy salts*, or powders, and with which pastils and some other special preparations, and even confectionery, are made. A very pure bicarbonate of soda is obtained by a process which, under the guidance of Dr. Barthez, I was permitted to witness. The process itself, and all operations connected with it, are placed under the supervision of a Government officer, to obviate the possibility of a doubt respecting the genuineness of the products. Whether as a pure bicarbonate of soda, or as Vichy salts, or powder for the purpose of preparing baths, or as pastils, the genuine products bear the mark of having gone through the ordeal of official inspection. This is a great advantage for those who are likely to require the aid of such genuine remedial agents; and, accordingly, it is found that the sale of them has increased very considerably since the Ministerial decree of the 27th of March last, instituting the said official superintendence.

The laboratory in which the natural salts are obtained from the Vichy waters, consists, first, of a series of descending evaporating boilers, covered completely over by a cover-lid, like the top of a waggon. There is an opening at the side, for ascertaining the progress of evaporation. When sufficiently condensed, as ascertained by the alkalinometer, the water is drawn off from the lowest evaporating boiler into thick earthen vessels, some round, some oval, in which crystallization soon begins, terminating in the formation of very large, transparent crystals. Secondly—these crystals are afterwards submitted to the direct action of carbonic acid, proceeding (as we have seen in Section IV.) from one of the principal sources, by which the crystals are converted into bicar-

bonate, losing thereby their transparency, and becoming consequently opaque. In this operation the water of crystallization is replaced by the carbonic acid, and the surface becomes slightly efflorescent. When one of these crystals is broken, the centre is found to be hollow. The exportation of these beautiful, light, and efflorescent crystals, to Paris, is very large; and there they are sold as the purest bicarbonate of soda; and pastils also are made of them. No inconsiderable quantity of soda is still left in the mother liquor, and used in a variety of ways. The supply is very large. The Vichy salts, suitable for preparing the waters for *baths*, are exported in stone bottles and pasteboard rouleaux, bearing the official seal of the Company.

By the apparatus above described, one thousand gallons of water are evaporated every hour, yielding 108 grains of salt. According to Jules Lefort's analysis they consist of bicarbonate of soda and magnesia, sulphate of soda and lime, and, in fact, of the several substances detailed in my table of analysis of the several springs of Vichy.

With these natural salts the pastils are manufactured. They possess an agreeable taste, and assist the action of the waters. They are used just before, or soon after dinner, to neutralize any excess of acid in the stomach producing painful digestion. Their well-established efficacy in that respect and reputation have led to a vast number of pretended imitations, respecting which it is sufficient to remark that *Vichy Pastils* can only be made with the natural salts drawn from the Vichy waters, which the Great Thermal Establishment alone can procure.

The genuine pastils are distinguished from all imita-

tive pastils by their superior digestive properties, as well as by their more agreeable and purer taste, which, in the pseudo pastils, retains the peculiar ammoniacal character inherent in the ordinary trade salt employed in their manufacture.

I had no opportunity of obtaining any reliable information respecting the quantity of water from the several sources exported by the company. But I know that it amounts, in general terms, to several hundred thousand bottles, large and small. The water is bottled and corked by the expeditious mode now generally adopted at all foreign springs, in which carbonic acid gas abounds, in order to preserve it. The bottles are neatly capsuled, and bear the name of the source, as well as the date of the year in which the water was bottled.

The peculiar virtues and efficacy of the Vichy waters being universally admitted, and the usefulness of its various products or preparations manifest to all—it was a fortunate idea for the English invalids who cannot afford, or are prevented going to the spa itself—that a Vichy company should have opened in our metropolis an extensive depôt of the several waters—the salts, and the pastils, directly forwarded under official inspection from the place. This depôt, as a branch of the Great Thermal Establishment of Vichy, has been open four years, in Margaret Street, in a large and very appropriate building, the interior arrangement of which, distribution of its vast premises, and neat location of the bottles, (bearing in each compartment the name of the source whence the water is drawn), are well deserving of a visit from those who can admire and value method, precision, and order in matter of business and commerce, conducted by superior intelligence, and with marked urbanity, under

the direction of Mousieur Brunel, appointed by the Vichy company.

Monsieur Brunel himself is thoroughly conversant with everything connected with the Vichy Thermal Establishment, and can afford any information respecting it that may be desired. This I have ever found him ready and willing to afford; and being a complete man of business, of gentlemanly address, and always at his post, applicants either for information or otherwise are certain not to come away unsatisfied.

THE END.

The unavoidable absence from England of the Author, who has thus been prevented from superintending the Press, has occasioned Errata, *the following of which are the most important, and which it is hoped will be excused.*

ERRATA.

Contents, VI., for *Yatro-Chemist* read *Iatro-Chemist.*

„ XIII., for *Pastille* read *Pastilles.*

Page 18, fifteenth line from bottom, for *yatro-psychologist* read *iatro-psychologist.*

Page 26, eighth line from top, for *tous* read *touts.*

Page 28, for *Lyon* read *Lyons*, et passim.

Page 30, eleventh line from top, for *parallelly-coursing* read *parallel-coursing.*

Page 36, twelfth line from top, for *fatigueing* read *fatiguing.*

Page 42, twelfth line from bottom, for *shibolaz* read *shiboleth.*

Page 79, line 12 from the top, for *injection* read *ingestion.*

Page 81, last line but one, for *contain* read *contains.*

Page 82, eleventh line from bottom, for *perturbations* read *perambulations.*

„ sixth line from bottom, for *for* read *forms.*

„ fifth line from bottom, for *given* read *supplied.*

Page 85, second line from top, for *writer* read *reader.*

BY THE SAME AUTHOR.

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Idem. Observations, Practical and Political, on the Plague and Contagions. 8vo., Plate. London.

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